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Resident Physician



March 1957, Vol. 3, No. 3

A Residency Year in Basic Science

Air Force Training
in Aviation Medicine

Medicine Under Communism

Guest Editorial

Clinico-Pathological Conference

Massachusetts Memorial Hospital

Literature for Foreign Graduates

The Heart and the Law

Resident Roundtable

Equipping an Office
for General Practice

Washington Report

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Journal for the Hospital Resident



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Resident Physician

Vol. 3, No. 3

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*Reifenstein, E. C., Jr., in Harrison, T. R.: Principles of Internal Medicine, ed. 2, New York, The Blakiston Company, Inc., 1954, chap. 98, pp. 702, 703.


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Articles are accepted for publication with the understanding that they are contributed solely to this publication, and will directly interest or be of practical value to resident physicians. When possible, two copies of the manuscript should be submitted. Articles with photographs, illustration or drawings are especially desired.

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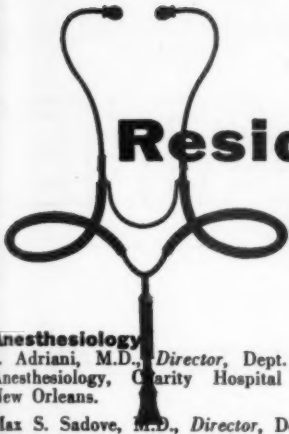
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Resident Physician

Anesthesiology

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Max S. Sadove, M.D., *Director, Dept. of Anesthesiology, Univ. of Illinois.*

Dermatology

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Howard E. Snyder, M.D., *The Snyder Clinic, Winfield, Kansas.*

Urology

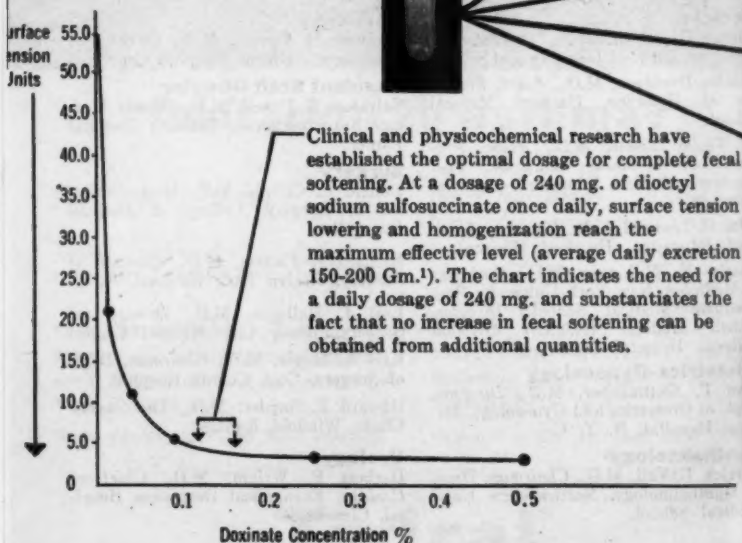
Herbert B. Wright, M.D., *Chief of Urology, Evangelical Deaconess Hospital, Cleveland.*

The answer...

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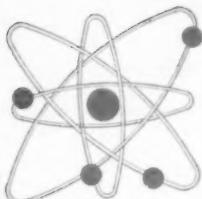
IN CONSTIPATION



1. Best & Taylor, The Physiological Basis of Medical Practices, 6th Ed.

Viewbox Diagnosis

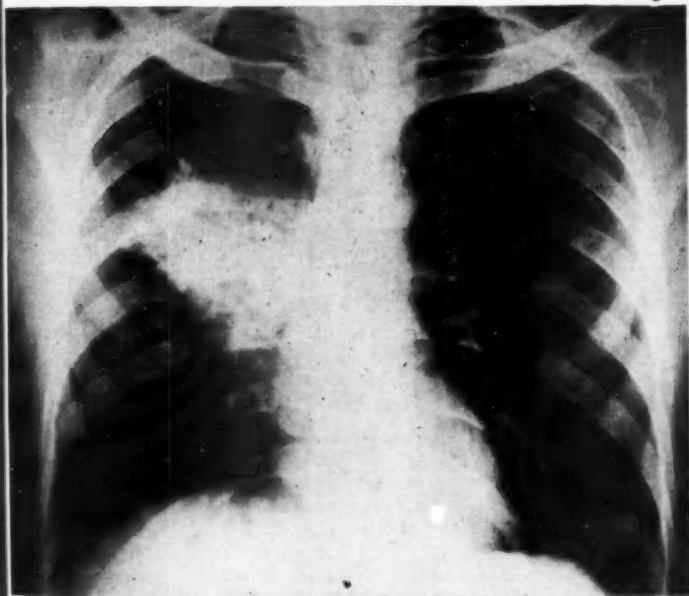
Edited by Maxwell H. Poppel, M.D., F.A.C.R.,
Professor of Radiology, New York University College of Medicine
and Director of Radiology, Bellevue Hospital Center



Which Is Your Diagnosis?

- | | |
|--------------------------|-----------------|
| 1. Carcinoma of the Lung | 3. Tuberculosis |
| 2. Pneumonia | 4. Infarction |

(Answer on page 178)





"WHEN A HUMAN LIFE MAY BE AT STAKE, THERE CAN BE NO COMPROMISE WITH QUALITY"

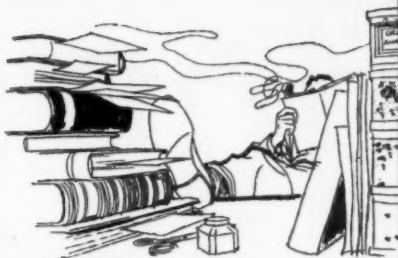
(Answer

1. Surgi
5. Speak
9. Gase
14. Breath
15. Exant
- erupt
16. Smell
17. Lake
18. Excisi
20. Chron
22. Yellow
- clays
23. Perfor
24. Distric
- Arabi
25. Not li
28. Like u
32. Pen a
33. Silly
34. Salt o
35. Havin
36. Threel
37. —o
- to the
38. —ha
- Schist
39. Bone
- us (2
40. —d,
41. Pancre
43. Large
- liquid
44. Retain
- Embry
45. Silver
46. Ringin
49. Whole
- 2 wds
53. Deviat
- norm
55. Butter
56. Take
- (Arch
57. Cover
58. Precip
59. Greek
- Peace
60. —lip
- amenc
61. Intern

i. Used
writing

Mar

Resident Relaxer



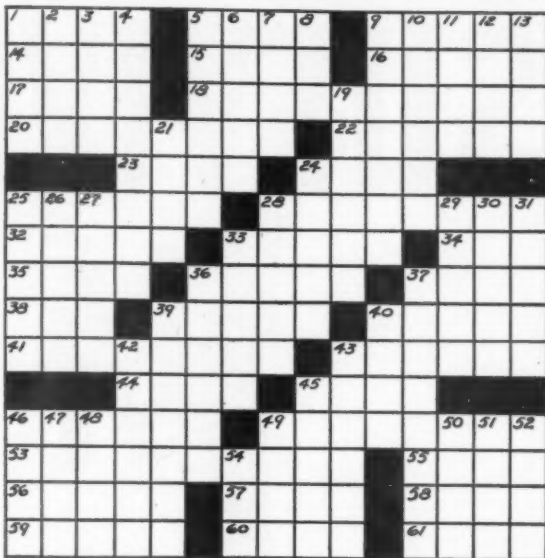
(Answer on page 178)

ACROSS

1. Surgical needle
5. Speaks softly
9. Gaseous form
14. Breathe hard
15. Exanthematous eruption
16. Smell
17. Lake
18. Excision of bone
20. Chronic (2 wds.)
22. Yellow-colored clays (var.)
23. Performs Paracentesis
24. District of Saudi-Arabia
25. Not liquids
28. Like urine (mod. Lat.)
32. Pen a Prescription
33. Silly
34. Salt of (Suffix)
35. Having power
36. Threefold
37. —onic, pertaining to the memory.
38. —harziasis, Schistosomiasis
39. Bone belonging to us (2 wds.)
40. —d, was afraid
41. Pancreatic Lipase
43. Large dose of liquid medicine
44. Retained fragment of Embryonic Tissue.
45. Silver (Alchemy).
46. Ringing (Lat.)
49. Whale product
53. Deviations from the norm
55. Butter substitute
56. Take a seat again (Arch.)
57. Covered walk (Gr.)
58. Precipitation
59. Greek Goddess of Peace
60. —lipsis, Temporary amenorrhea.
61. Internal (pref.)

DOWN

1. Used in prescription writing. (2 wds.)



2. Flesh
3. One
4. Soapstone
5. Pediatric Respiratory problem, (pl.) Hops (pl.)
6. Kiln for drying
7. —itis, inflammation of bone.
8. Pronoun
9. Material for preventive inoculation.
10. —desis, surgical ankylosis.
11. Not feeling well.
12. Eye (Gr.)
13. Lines of light
19. Red histological stain.

21. Oil of Juniper oxycedrus.
24. Law dealing with Basilar skull fractures.
25. Cotton-tipped applicators.
26. Bony cavity for the eye.
27. French city
28. Healing of fracture.
29. Biblical mountain
30. In—, unborn
31. Fecundating fluid of the male.
33. —ability, hyper-responsiveness.
36. Pertaining to a cough
37. Foramen of Magendie.

39. Perform a surgical act.
40. Source (Lat.)
42. Fragrant Alkaloid from Urine.
43. Beats (Lat.)
45. —ene, oil in lemon peel.
46. Hindu garment
47. —ous, Troublesome
48. Olfactory organ.
49. —oblast, bone forming cell.
50. ardor
51. His lines are used craniocerebral topography.
52. Single (prefix)
54. Theory.

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1. Carey, L. S.: Delaware M. J. 21:229 (Oct.) 1949.

C I B A
SUMMIT. N. J.

Letters to the Editor



*Unsigned letters will neither
be published nor read.*

*However, at your request
your name will be withheld.*

Inadvisable

In the January 1957, Vol. 3, No. 1, issue of *RESIDENT PHYSICIAN* under the *Mediquiz*, page 156, there is a question in which the answer given seems to me to be incorrect. The answer indicated as correct (A) appears to me to be the one condition in which splenectomy would be inadvisable, but that the remaining three constitute indications for the operation. I feel this must be a misprint.

Ned D. Rodes, M.D.
Chief Surgeon

Ellis Fischel State Cancer Hospital
Columbia, Missouri

• *Dr. Rodes is correct. Please see Mediquiz in this issue for the correction. We appreciate Dr. Rodes' letter as well as those from other alert readers who were quick to put us straight. We sincerely regret the error which allowed the word "ad-*

visable" to appear in place of the correct word, "inadvisable."

Topics

We notice you have published a number of articles written by residents. We have enjoyed them very much as well as the rest of your excellent publication. Could you advise us of some topics you would be interested in having written up into articles? We would like to collaborate on a paper for *RESIDENT PHYSICIAN*.

R. T. Lowry, M.D.
M. Willis, M.D.

Los Angeles, California

• *Any topic which you feel would be of interest to a major segment of resident physicians would be of interest to us. For a few suggestions along these lines, please see "Special Notice to All Residents" appearing in this issue of your journal.*

—Continued on page 32

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, M.D.
.D.

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of in-
estions
"Spe-
s" ap-
ournal.
page 32

physician

Polio Vaccine

Is the National Foundation for Infantile Paralysis interested in having everyone vaccinated — or only persons under 35 years old? I heard that everyone was supposed to get it —but some of my colleagues disagree.

Henry T. Ramsey, M.D.
Miami, Florida

• *You heard correctly. The National Foundation is urging all persons to take the vaccine. Also, many hospitals have completed a full program of shots for all hospital personnel, including house staff members. In this regard, the Foundation reports "Twenty-five percent of 1955 polio victims were among older peo-*

ple . . . seven of every ten respirator patients are 20 years of age or more . . . polio cases in the future, though fewer in number, may be concentrated in the upper age group and may be of even more serious consequence than the general level of the past." (See photo.)

CPCs

Your clinical-pathological conferences are wonderful and I think you are doing a good job for residents with each issue of our journal. I wanted to mention the CPCs particularly because they are outstanding —and since RP is not primarily a scientific journal, the CPC stands out all the more. Do you have an index of past conferences?

T. C. Loucks, M.D.
Louisville, Ky.

—Concluded on page 36



Doctors, nurses, occupational therapists, physical therapists and medical social workers believe in protecting themselves (as well as their patients) against poliomyelitis. At New York University-Bellevue Medical Center, Registered Nurse Edith Wallace (New York City), who has had her "shots," administers Salk vaccine (left to right) to: Physical Therapist Ann Marshall (La Junta, Colorado), Dr. Barbara Jo Serber, M.D. (New York City), Medical Social Worker Lynne Riehlman (Snyder, New York), Occupational Therapist Paul R. Clark (Emerson, New Jersey) and Dr. Douglass Thompson, M.D. (New York City). NEIP PHOTO

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Concluded from page 32

• *Thank you for your comments. Credit for the conferences should go to the medical centers submitting them and to the individual physicians who prepare them. Our contribution is simply to leave well enough alone — we seldom cut or*

shorten the CPC since most residents tell us that the "discussion" section is the most interesting part of the complete report. Our December 1956 issue contains an annual index of all articles published during the past year. Conferences are included in this index.

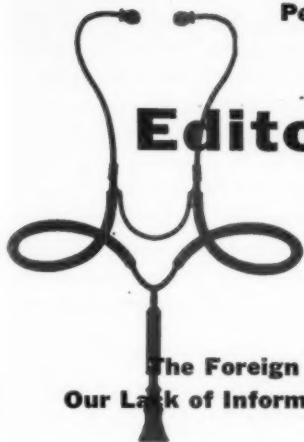
Orthopedic Board Exams

Part I examination of the American Board of Orthopedic Surgery will be held on April 18th and 19th in Washington, D. C., Los Angeles, and St. Louis, Mo. The next Part II examination for certification will be held January 29, 30 and 31, 1958 in New York City. Deadline for receipt of application is August 15, 1957.



"Now, as to the fee . . ."

Perrin H. Long, M.D.



Editor's Page

The Foreign Resident: Our Lack of Information About Him

Your Editor has thought for some time that too little attention has been given by American Medicine to the problems of the foreign physicians who now occupy about one fourth of the total house officer positions in American hospitals. According to recent figures, there are approximately 6,000 exchange students—i.e., interns, residents and fellows—in our hospitals. This represents an important group of individuals directly concerned with medical care and research in the United States.

It would be interesting if we had definitive and accurate information as to why foreign physicians seek graduate education in the United States. In our previous editorial comment on this subject, we pointed out that during World War II, the development of American Medicine was much less hampered by the effects of global war than was true in many other countries of the world. And during the last eight or more years our government and many voluntary organizations have been active in providing technical aid to our friends around the world. Without question, aid in health matters has loomed large in these various programs.

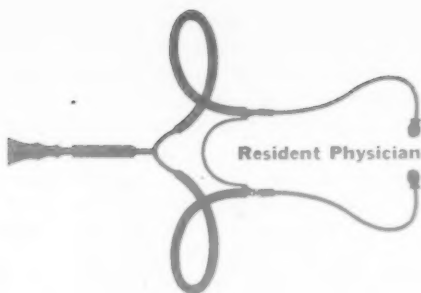
Yet, the effects of economic, social and political factors in the motivation of our younger colleagues in foreign countries to seek graduate education here, and in a number of instances to couple this with an attempt to settle among us permanently, as citizens, is difficult to assess. No one knows what the answer is. Furthermore, while it is known that a number of American hospitals have carried out definite recruiting programs in foreign countries for the purpose of filling their house-staff vacancies, little data is available relative to the methods which were used, and to the promises made to our foreign colleagues in the course of such campaigns.

We also have little information as to whether the educational programs, as presented in the course of recruiting foreign physicians, are fulfilled in practice.

And finally, next to nothing is known of the immediate impact on medical care abroad resulting from these thousands of young physicians leaving their homes to spend a year or more as exchange students in the United States.

In subsequent editorials we plan to discuss some of the problems and difficulties which our foreign colleagues encounter in the course of their stay with us, and as it develops, the impact of the "Evaluation Service for Foreign Graduates" which shortly will be gotten under way by the Council on Medical Education and Hospitals of the A.M.A. and other medical evaluating agencies. *Our foreign colleagues could be of greatest assistance to the Editor if they would write him about the problems and difficulties which they may be encountering in our country.*

Perin H. Long.



A Residency Year in Basic Science

A career in most any specialty, a future in academic medicine, or simply an opportunity to get in some research while making up your mind about your future, either or all these objectives may be served by taking an extra year in basic science.

Frank A. Howard, M.D.

Have you ever considered returning to medical school for one of your residency years?

I suppose I can presume that some of you will answer quickly and emphatically in the negative—as if even to consider such a thing would amount to monstrous folly.

Yet, I hope there are those who will answer the question with another:

“Why Should I?”

This question implies that you are at least willing to entertain some reasons for what may appear to be at best a backward step in your rush toward private practice, at worst a “wasted year” in an educational den of didacticism.

Here is my hypothesis: a year in basic science can be both profitable in a professional sense and thoroughly enjoyable as a training experience.

I took such a year; in fact, I extended the original year

to two. And I do recommend it highly and enthusiastically as a training period of inordinate value whether or not you eventually choose a career in academic medicine.

I chose to spend a year in basic science because I was considering the idea of an investigative career. It seemed logical to me that this was an ideal way to get a firsthand understanding of the advantages and disadvantages of such work. Also, I was advised by practicing clinicians that a period in basic science would be wise, even if I finally decided to do only clinical medicine.

The respected doctor's doctor of our hospital told me that if nothing else, it would teach me to be more critical, and that this would be of great general value to me.

Of course, these were words—and I was seriously concerned with the expenditure of a full year of my training life. Nevertheless, I made my choice. I've not regretted it.

Critical approach

On a warm July 1st, two years ago, I moved into the Pharmacology Department at the Harvard Medical

School. Almost immediately I noticed a different atmosphere and philosophy. In contrast to the work in a hospital where prompt, life-saving decisions are frequently required, a more scholarly approach was apparent at the school which at first seemed so painfully indecisive.

However, I quickly learned that if one has but a few facts and an impression, this is nothing from which to draw a conclusion. Instead, it is an investigative problem to be worked out with care and exactness.

Observe and record

Controlled studies, often so difficult in clinical work, are a routine part of every experiment. The critical approach of your experienced sponsor gradually becomes more and more a part of your approach to problems. You see the lasting satisfaction of a carefully executed experiment.

The rigorous experience of careful investigation helps you grow in many ways. Learning to observe and record with new care is one important benefit. Then there is the

About The Author

After receiving his M.D. at Washington University in 1950, Dr. Howard joined the house staff of Peter Bent Brigham Hospital, Boston, Mass., for one year followed by two years as a medical officer in the Navy. The author returned to Peter Bent Brigham for one year of residency in medicine before accepting a research fellowship in pharmacology (USPHS) at the Harvard Medical School. Currently, he is a senior assistant resident at Peter Bent Brigham.

interesting work with statistical planning and analysis of experiments. You learn to write more clearly and accurately. You have many occasions to practice speaking more effectively.

All of this is of general value, whether for future use in the classroom or in the local medical society.

Student

A re-exposure to basic science reminds you of the necessity of remaining a student of medicine, forever. You are much impressed with this fact when you return to medical school and again participate in the curriculum. A course that was familiar only a few years previously, you find has changed grossly. Old lecture notes are so out-dated that they are a little amusing—and a little frightening too!

Yet, the curriculum changes slowly compared with the thinking about the research problem with which you are involved. As you become thoroughly acquainted with some special field, you may witness important changes taking place, even within the year.

It soon becomes apparent that there is no "cold dope." The only fact that remains unchanged is that change itself is inevitable.

Approach a problem

Thus, one must learn, revise, and then re-learn. The finest doctors of medicine—professors at a medical center or general practitioners in an

isolated community—maintain this status by continuing to be students of medicine.

A residency year in basic science clearly shows you important general principles. You begin to see that perhaps the real purpose of our training period is not to learn all the answers to medical problems, but instead to learn how to go about approaching problems. (The answers may well be proven to be incorrect tomorrow.) Perhaps the knowledge of how to approach a problem is the true mark of the well-educated man.

Career plans

Basic science work is of specific value in many specialties of clinical medicine. One of the best cardiologists under whom I was fortunate enough to have trained worked in physiology with Dr. Houssay. Two excellent infectious disease clinicians worked during their early years in microbiology. Outstanding endocrinologists worked in physiology or biochemistry laboratories. Special experiences in pathology form an excellent background for medicine or surgery. In fact, each one of the basic sciences provides a background for some clinical specialty.

Balance

It is, of course, a way to move into a career of investigative work in basic science. However, it was for me an opportunity to sample a bit of what such a life might be, for

I had not decided which way to turn.

It is enlightening to see not only your own research work but also that of others in the department. The satisfactions and difficulties of teaching can be compared, for such work is not pleasant or easy for everyone. Once you have completed a research project of your own and have helped with instruction of the students, you are better able to balance the frustrations of failure—of which there are many—against the happy rewards of success. Then you can judge for yourself the suitability of an investigative and teaching career.

Integrated programs

A current interest in medical education is integration of separate disciplines in a single course. Some radical experiments of this nature in medical teaching are being carried on in certain schools. Even some of the more "conservative" schools are discussing integration plans of varying degrees.

Where will competent faculty members be found to fulfill the ambitious aims of some of these programs? No man can operate effectively in disciplines such as biochemistry and clinical medicine unless he has been trained in both fields. Obviously, these integrated programs should be implemented through a faculty completely familiar with the problems of each of the disciplines.

If clinicians would accept some

instruction in basic science, a group of qualified instructors would be available for integrated medical teaching.

Working hours

Working conditions in basic science departments are pleasant. In fact, after a year as a resident, it seems almost wrong not to be on duty every other night. Initially, I felt a little guilty; it seemed as if I was loafing compared with the normal pace of hospital work. However, you quickly find that there is plenty of reading and studying that must be done. The evening hours become filled with many projects. The job of staying a page ahead of the students is not an easy one. In addition there is the big project: organizing and compiling your experimental data. Often this must be done at night, for the daylight hours are usually filled with laboratory work and teaching. Occasionally an entire afternoon is free for work in the library. This workload helps you get over your guilty feelings of laziness.

When lectures, seminars or meetings occur, it is at first a bit startling to see the whole department move out to attend. It seems as if someone should stay to cover the department. But, since you're not responsible for patient care, your schedule is flexible. And the advantages of more reasonable hours are apparent the first day away from the hospital.

Remuneration

Increasingly larger sums of money are being made available for young people interested in trying investigative work. For example, the United States Public Health Service Research Fellowship (postdoctoral) is \$3,400 for the first year plus \$350 for each dependent. This grant is usually tax free. Other types of grants are as generous and liberal.

The purpose of most grants is to provide means and opportunity for interested young doctors to enter research work. Each applicant with an approved sponsor submits a proposed project to an approving board for consideration.

Of course, the aim of these agencies is not simply to provide an increased salary for a residency year.

However, an honest statement to the effect that you are contemplating a career in basic science or considering a career in clinical investigation indicates your interest and makes you eligible for consideration.

If this period in basic science starts an individual into a successful career of research, the hopes of the granting agency have been fulfilled. If not, real benefit has resulted in improving the abilities of a physician, regardless of his eventual choice of career.

Board credit

A residency program in most specialties is time consuming. An-

other year, no matter how valuable, is dearly bought. However, often an appropriate year in basic science is credited as a residency year for purposes of board qualification.

Here are some of the boards which offer credit:

Internal Medicine. The board will accept as satisfying one year of the three years of residency, a year as a graduate student or as an instructor in an approved medical school on a full-time basis in bacteriology, pathology, pharmacology, or physiology.

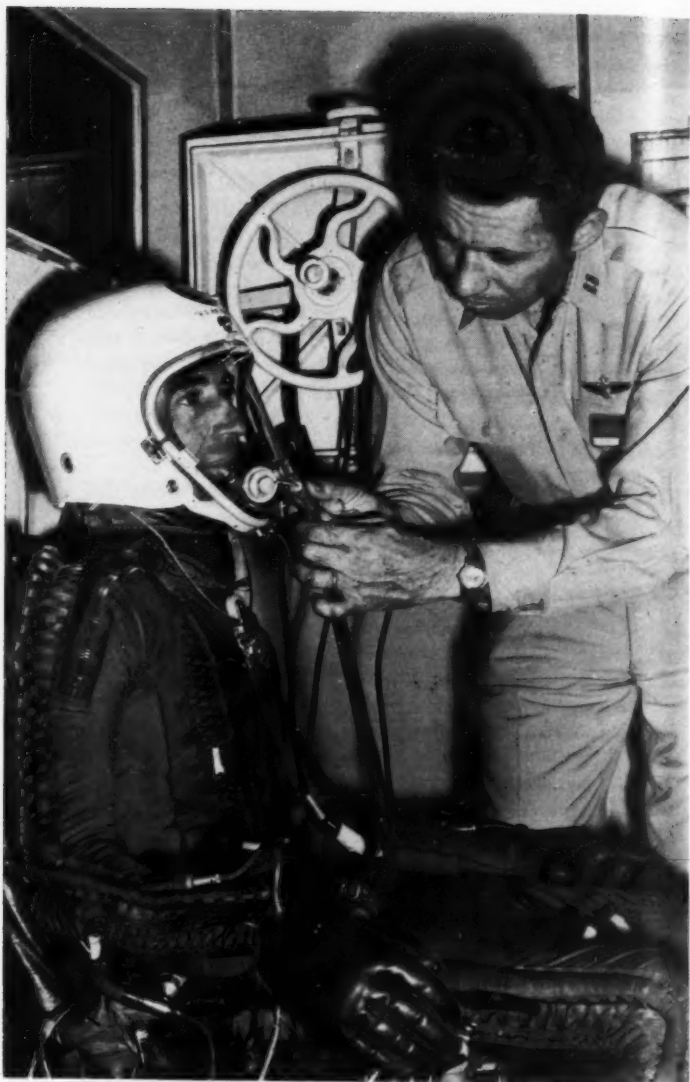
Pathology. Candidates may substitute a fellowship in any of the preclinical departments of a university for one of the four years.

Pediatrics. Both research residencies and teaching fellowships are acceptable in satisfaction of the practice or study requirement.

Surgery. Two additional years of training beyond the three years of residency to complete a total of five are necessary to meet the requirements for examination. These may have been spent in the study of surgery and the basic sciences in an approved graduate school of medicine (no more than one year's credit is granted for work in basic science).

Consideration

Thus, it is my belief that many residents would derive considerable benefit from an additional year spent in basic science study. I recommend that you consider such study when formulating your future plans.



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Air Force Training In Aviation Medicine

From the horse and buggy days to supersonic jet travel, this has been the modern saga of man in motion. Along for more than just the ride have been the newest of medical specialists. Current Air Force training for these space medics is a well organized and integrated program of instruction leading to a career and board certification.

Colonel Howard Lackay, (MC) USAF

Chief, Medical Education Division

The Air Force Aviation Medicine Specialty Training Program is the first graduate educational program specifically designed to prepare a physician for the practice of aviation medicine as a specialty, and the first such program approved by the AMA Council on Medical Education and Hospitals and the American Board of Preventive Medicine. It is divided into four phases:

Phase I. Graduate Course in Preventive Medicine (one year).

Phase II. The Advanced Course in Aviation Medicine (one year).

Phase III. Residency in Aviation Medicine (one year).

Phase IV. Supervised Practice of Aviation Medicine (two years).

Prerequisite

Before entering *Phase I*, medical officers selected for this training must have successfully completed prerequisite training consisting of the Primary Course in Aviation Medicine and at least nine months of additional experience in the practice of aviation medicine. (See *RP*, February 1956.)

Graduate course

The Graduate Course in Preventive Medicine, which constitutes the

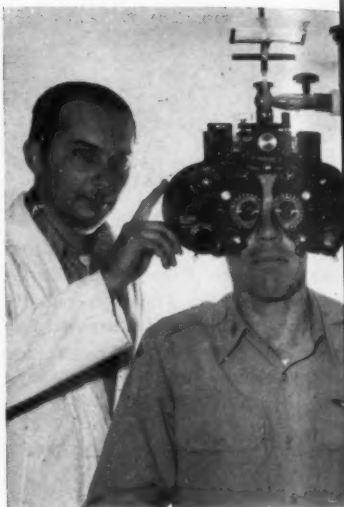
Aviation medicine resident, H. D. Estes, Capt., USAF, supervises indoctrination of a pilot in the operation of pressure suit.

Major Joseph J. Claro, USAF (MC), aviation medicine resident, performs visual tests on an Air Force pilot at the USAF Hospital, Wright-Patterson Air Force Base, Ohio.

first phase, provides training in those fundamentals of preventive medicine upon which the specialized practice of aviation medicine is based.

The curriculum includes such subjects as epidemiology, biostatistics, public health practice, ecology, environmental and industrial health, microbiology, physiological climatology and forensic pathology.

This phase of the program is provided at selected civilian schools of public health. Today, Air Force offi-



Captain Julian E. Ward, USAF aviation medicine resident, is 'checked out' in the operation of a low pressure ('altitude') chamber by Lieut. Colonel Clyde Bidulph of the Department of Aviation Physiology, School of Aviation Medicine, Randolph Air Force Base, Texas.



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Captain Estes participates in a research project at the Aero-medical Laboratory, Wright-Patterson Air Force Base.



ers in this program attend the Johns Hopkins University School of Hygiene and Public Health or the Harvard University School of Public Health. Upon graduation from this one-year course at either school the participant is awarded the degree of Master of Public Health.

Advanced

Phase II, the Advanced Course in Aviation Medicine, is given at the School of Aviation Medicine, Randolph Air Force Base, Texas. In this, the second year of graduate study, the student's attention is focused sharply on aviation medicine per se.

In the first six weeks all students are given flight indoctrination training. This consists of ground school and in-flight instruction in both conventional and jet aircraft. During the remaining ten months there is a thorough coverage of those parts of the basic sciences—such as physiology, biophysics, biochemistry, pharmacology and psychology—which form the matrix of aviation medicine.

A large portion of the time is spent on pure aviation medicine subjects such as the medical selection and classification of flying personnel, human engineering prob-



As a part of his residency training, Captain Estes puts in a tour of duty at the Environmental Health Laboratory at Wright-Patterson

lems in aircraft; the planning, organization and conduct of aircrew maintenance and effectiveness programs; rescue and survival for aircrews; and the evacuation of patients by air. Students are shown how to apply the fundamental principles of preventive medicine learned in *Phase I* to aviation medicine problems.

Field trips

On field trips, they visit aircraft plants, civilian airline facilities, military and civilian aviation test and research centers to observe aviation medicine problems at their source and to study various types of aviation medicine programs and investigative studies designed to solve them.

During the course considerable time is devoted to familiarization with the techniques of research and investigation by allowing the student

himself to conduct such studies or projects.

Both didactic instruction and practical training are given in those clinical fields most closely related to aviation medicine. These include ophthalmology, otorhinolaryngology, neuropsychiatry, internal medicine and traumatic surgery. Considerable time is devoted to the study of clinical problems in aviation medicine.

Third phase

For *Phase III* of the AvMed specialty training, participants are assigned to one of the three Air Force aviation medicine residency programs.

Residencies are conducted under the personal direction of such leaders in aviation medicine as Major General Harry Armstrong, Surgeon, United States Air Forces in Europe

Major General Otis O. Benson, Jr., Commandant of the School of Aviation Medicine; and Brigadier General Edward Tracy, Surgeon, Air Materiel Command.

As indicated, the sites of these residencies are located at the Headquarters, USAFE, Wiesbaden, Germany; The School of Aviation Medicine, Randolph AFB, Texas; and the Headquarters, AMC, Wright-Patterson AFB, Ohio.

All programs are in accordance with the essentials of residency training established by the Council

on Medical Education and Hospitals of the American Medical Association and by the American Board of Preventive Medicine.

The residents in these programs are given an opportunity to apply the knowledge which they have acquired during the first two academic years to practical problems in all aspects of aviation medicine.

Active participation with assumption of responsibility, rather than passive observation, is stressed.

During the clinical aviation medicine portions of these residencies,

Here, Air Force AvMed residents work in the ENT Clinic under the supervision of Lieut. Colonel Ralph N. Kranz, Chief of the Department of Otolaryngology at Randolph AFB.





Pictured is the Research Laboratory, School of Aviation Medicine, Randolph AFB.

the residents, as consultants, work up and study referred aviation medicine clinical problem cases under the supervision of well-qualified specialists in both aviation medicine and the related clinical specialties.

In addition, residents have an opportunity to conduct studies of the aviation, public health and occupational medicine programs on selected Air Force bases; they participate in the supervision of the aircrew effectiveness program of a large command and of smaller flying units; they conduct physiological and partial pressure suit indoctrination training; as a member of aircraft accident investigation boards they study aircraft accidents and help organize flying safety programs in which are disseminated the lessons learned from all such studies.

All residents are given an opportunity to conduct research or in-

vestigative projects of their own, to participate in aviation medicine symposia and conferences, and to instruct other physicians in aviation medicine fundamentals and practice.

Staff

AvMed residencies are supported by the staffs of large Air Force commands, hospitals, research laboratories and teaching facilities. These include leading medical specialists, not only in aviation medicine but also in public health, occupational medicine and the clinical and laboratory specialties.

In addition, residents work with experienced pilots, navigators, aeronautical engineers, aircraft designers, industrial and sanitary engineers, epidemiological teams and basic scientists.

The Air Force residencies were the first ones established and until

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General Edward J. Tracy, Director, AvMed Residency Training Program, confers with residents (from left) Captain H. D. Estes, Major Robert E. Shirley, Major Joseph J. Claro.

this year were the only ones being conducted.

Practice

With the residency, the academic and more formally organized portion of the Air Force Aviation Medicine Specialty Program is completed. During the final, two-year supervised practice period (*Phase IV*) the participant is given an opportunity to apply the theories, fundamentals and principles of aviation medicine acquired during the first three years to the practice of the specialty under the close, expert supervision of experienced specialists in the field. The result is a rich, extensive experience in all aspects of aviation medicine—preventive, clinical, investigative and supervisory.

In the majority of assignments, he is given the responsibility of supervising the aviation and preventive medicine programs of a major Air

Force command. There are some assignments which provide an opportunity to practice aviation medicine primarily through research and teaching duties.

In a few selected cases, the second year of *Phase IV* may be spent in a fellowship, residency or special assignment which provides additional experience in a closely related scientific field or medical specialty. These provisions give the program additional flexibility and permit early channeling of training into any field of aviation medicine practice in which one has developed and manifested interest and ability.

Regular service

This unique and valuable opportunity for training in one of medicine's newest specialties is offered to carefully selected Air Force physicians who are in the regular service and less than 35 years old.

As stated, the program may be

entered after one year of prerequisite training and experience in aviation medicine as an aviation medical examiner or flight surgeon.

Officers undergoing this training receive the full pay and allowances of their grade and, in addition, both career incentive and flight pay. All have at least the rank of captain and, as such, are paid approximately \$750 per month. Base pay, quarters allowance, career incentive and flight pay increase rapidly with rank and the amount of time in the service. For example, the pay and allowances of such an officer with the rank of colonel would, after 16 years of active duty, be approximately twice that he received as a captain.

The value of other benefits, such as retirement pay, disability and

survivors insurance, 30 days of vacation with pay annually, amount to well over \$4000 per year.

Career opportunities

Obviously, this new medical specialty offers both rich and fascinating career opportunities. Its possibilities are almost as unlimited as the space surrounding our planet. As a science it goes beyond those which are a part of medicine per se into the aeronautical applications of many others such as engineering, physics, chemistry and climatology.

Inquiries concerning this education program should be addressed to the Medical Education Division, Office of the Surgeon General, Headquarters, United States Air Force, Washington 25, D. C.

The Doctor Speaks . . .

Especially designed to aid residents in history-taking and examination of foreign-born patients, an easy-to-use, compact booklet covering medical phrases, terms and questions in six foreign languages is currently available. Combining a series of language articles (French, German, Italian, Polish, Spanish and Yiddish) published during the year in *RESIDENT PHYSICIAN*, the handy booklet may be purchased at cost (single copy: one dollar). Supply limited. Address: *RESIDENT PHYSICIAN*, Reprint Department, 1447 Northern Blvd., Manhasset, L. I., New York.

*In an exclusive interview
an escaped Hungarian physician
reports on*

Medicine Under Communism

Have you any idea how many physicians have left Hungary?

I have no personal knowledge, but I have heard from other physicians that approximately 2,000 have left. This will pose an extremely difficult problem because there was a shortage of physicians in Hungary even before this.

Why did so many physicians leave?

You see, the doctors would be right in the first line of reprisals because it is considered a sin to help the Freedom Fighters.

The Party people know of our activities and we were afraid, of course, that once the Communists were in control again we would be held responsible for them. During the period between 1948 and 1954 many physicians were arrested and jailed because of their resistance to the regime.

So, historically speaking, you knew what you could expect now?

Yes. Following the second World War there were great social changes in Hungary, such as the abolishment of the large landowners system. The medical profession then was in favor of helping the people obtain better living standards than they had before. However, when Rakoshi, the Stalinist Communist, took over the government, doctors were the strongest opponents of this extremist Communist regime. Again during the revolution, the doctors were among the first ones on the streets giving medical aid to those wounded in fighting the Communists and the Russians. We are not loved by the Communists.

Did you participate in the fighting?

Not directly except insofar as I treated the wounded. However, I did participate in the demonstra-

Russian tanks had crushed the last organized resistance in Budapest and other cities throughout Hungary. Remnants of the Freedom Fighters had fled to the forests. Just before dawn, in a heavy snowstorm, two gaunt figures stumbled across the border into Austria. Each carried an infant. Between them, one pitifully small suitcase with all the worldly possessions they had managed to bring. Dr. A., a young Hungarian specialist, with his wife and two children, had come many miles on foot to escape certain Communist retaliation for the medical aid he

had given the Freedom Fighters. The Russian massacre of his countrymen had ended—but now the killing would become more selective.

From Austria, Dr. A. and his family were brought to the United States. He is currently working in a hospital in the midwest. Speaking through an interpreter, Dr. A. has given your journal this account of medical education, training and practice in Hungary under Communist domination. To protect his relatives and associates, references to names and places have been deleted.

tions of young people who went out in the streets of and stood barehanded in front of the advancing Russian tanks. In these demonstrations very young children between twelve and fifteen years old actually lay down in the streets and blocked the tanks with their bodies.

Did the tanks go over them?

No, they stopped. Later when the Russians gained control of again, the Freedom Fighters moved back into the forest. We then supplied them with medicines from the city and again treated the wounded.

How many weeks did this fighting last?

From the 23rd of October until about the middle of November.

Were many of the hospitals and medical schools damaged in the fighting?

In Budapest particularly, many buildings belonging to the University and many of the clinics were damaged in the fighting. In one case, a Russian soldier ran into a hospital and machine-gunned wounded Freedom Fighters in their beds.

Of the 2,000 physicians who left Hungary, do you know how many have come to the United States?

I believe only about 200 have come to this country, thus far.

Escape

How did you get out?

We came by train to, which is approximately 30 to 35



Dr. A. . . . (left) relaxes in conversation with a resident physician in a U. S. hospital.

kilometers from the border. From there we came on foot to in Austria.

With your wife and two children?
Yes.

Briefly, what was your escape plan?

We carried nothing in the way of baggage, clothing, papers, etc., that would indicate that we intended to go to Austria. All we had were forged papers that showed we were visiting relatives near the Austrian border.

We spent three weeks in a refugee camp in Austria, then through this charitable organization we were flown to this country by way of Germany, Scotland and Newfoundland.

During all this time you wore the same clothes you escaped in?

Yes. My wife, who wore slacks, had almost forgotten what a dress was like until she was given one when we arrived in New York.

Medical schools

How much pre-medical training is required before a student can enter a medical school in Hungary?

There is no actual pre-medical training required. Until 1950, the only requirement necessary to enter medical school was a diploma from one of the "gymnasiums," or secondary schools, which offered Latin in its curriculum.

Is Russian a required language in the schools now?

Russian was obligatory in all schools of the country from the first year of grammar school on. When Imre Nagy took over the government, shortly before the revolution, he abolished the obligatory study of Russian. However, now that the Russians are back in control it will probably be reinstated.

Do you speak Russian?

I know how to write and I know how to read a little Russian; I know a few words. But nobody learned Russian really. It was an obligatory thing but everybody put up the utmost resistance; it was considered an honor to flunk the subject. During the first days of the revolution, students placed all their Russian textbooks in front of Soviet monuments, of which there are abundance in Hungary, and burned them.

What is the average age of a student entering medical school?

Between 18 and 20.

What is the cost of medical education per year to the student?

The students attend on State scholarships. The students who get better grades get more scholarship money.

Are any of the medical schools privately controlled?

There are no privately controlled schools in Hungary at all. Even the theological institutions are under State control.

Is acceptance to medical school based on scholarship?

Years ago, only students of high scholastic standing were accepted in medical school. However, starting in 1950, when the worst Stalinist times came to Hungary, entirely different qualifications were set.

Quality

The Communist Party set these new qualifications?

Yes. Under the new system the basic requirements for admission was that the student come from a very poor background that is, factory workers or farm hands, without regard to scholastic standing. A great many of these students had no secondary school training at all; therefore, a condensed course was given to enable them to obtain secondary school diplomas. This condensed course took approximately two years. On the final examina-

tion, none of the students from these groups could be flunked no matter what his marks were. Good scholastic background was completely ignored. As a matter of fact, if a student with high scholastic standing applied, and it was found that he came from a middle-class background, or if any in his immediate family, were independent merchants or farmers, he was refused admission.

In your opinion, has this affected the quality of the medical training?

From 1950 on, approximately 90% of the student body consisted of those poorly educated people and consequently the standard of instruction in medical schools has sunk to an incredible degree.

How long is the medical school course?

The medical school course is five years. Upon graduation the student obtains a general medical degree. However, before being allowed to practice he must attend the clinics for 18 months' training. This is similar to your internship.

Does the medical school graduate have any hospital training?

Until recently, he had some hospital training. This started in the third year of medical school, when the student attended a hospital or clinic for general practice during the summer months.

Does this system still prevail?

No, they recently made a change so that all students, including medical students, must go into military service. This eliminated the summer hospital or clinic training sessions. It did not, however, affect the 18 months' training after graduation.

Choice of location

When a doctor is ready to begin practice, does he have any choice as to the location of his practice?

No, he is assigned to a specified area or post. Of course, those who cooperate with the Party will get better assignments, in larger hospi-

tals or in research and other institutions. For instance, in the clinic at where I took part of my specialty training, the State checked the background of all physicians. If you were of bourgeois background or did not cooperate with the Party, you were dismissed.

Can the doctor change his place of practice?

He needs the permission of the State. In general, he cannot get this permission.

In other words, cooperation with the Party is all-important?

Yes.

Are professors in the medical schools members of the party?

Most professors are members of the Communist Party only because it is necessary to hold the post.

Is specialization for a degree a formalized educational program of hospital training?

Yes, there is a formal program for specialized degrees. Specialized practice to fulfill requirements for a specialist's degree must be done in clinics approved by the university. The head of such a clinic must be at least a "private docent" at the university. A "private docent" is similar to a clinical professor in this country. A specialist has to be informed on literature of his specialty which appears in foreign as well as Hungarian periodicals. The specialist must finally pass a "specialized professional examination" which lasts for a week.



Operating room of the Kobanya Dispensary in an industrial suburb of Budapest.

"The real miracle was not that there was a revolt, but that after nearly ten years of communist indoctrination, the children of Hungary were the leaders of the revolt."

Does the State control this examination?

The State has nothing to do with this examination; it is handled exclusively by the professors of the university and the medical school.

How many years' training did you have in your specialty?

I had four years of specialized training, two years of which were in a clinic in the village of and the balance in the clinic at

Practice

Is there any private practice in Hungary?

There is no such thing in Hungary as private medical practice as you know it. Everybody works for the State. After the doctor has finished his day's work for the State he can sometimes get a few private patients.

How many hours a day does the State require?

In hospitals, usually from eight to ten hours a day.

For how many years?

There is no limitation. It is a lifetime service one must render to the

State. Naturally, those who cooperate with the Party get better appointments. In addition, the latter were permitted to do work of a political nature during regular office hours at the hospitals.

Of the 13,000 physicians in Hungary, about how many are general practitioners as against specialists?

About 75% general practitioners and 25% specialists.

Do general practitioners in the smaller areas refer cases to specialists?

Yes, they do.

Is there a difference in the income of the specialist and the general practitioner?

The specialist does not get any more pay, but he works fewer hours.

Does the patient pay the doctor?

Medical services are free to all patients who came to the public clinics or the office of the doctor assigned to his area.

Can the patient choose his physician?

No. Not on a free service basis. The patient can go only to his area physician. The whole country is subdivided into areas and every area has its own physician. However, if you wanted a certain physician, and he maintained evening "private practice" hours, you could see him and pay the physician's private fee. Naturally, not many people had the money to afford this.

What sort of equipment or medical apparatus does the average physician own?

Generally the same equipment as in this country, except that he doesn't own the equipment. All equipment belongs to the State. In other words, if he moves, all his instruments are left behind.

Does the average doctor in one of these area groups have an x-ray machine?

No.

Does the physician assigned to an area do surgery?

In an average area office where there are no specialized offices for surgery or obstetrics and that type of thing, the general practitioners can do minor surgery and they usually do, and minor gynecological procedures. However, in a larger area office they will have specialized departments. The area doctor usually can do only general services.

Antibiotics

Is there any shortage of drugs or medicines?

As an average, I would say there were shortages of medicines and bandages. In the area offices, however, there was usually an adequate supply of medicines with the exception of antibiotics. Only penicillin was available because it was manufactured in Hungary. Of the broad spectrum antibiotics, these were available only in the largest hospitals. They were not available to the general practitioner. There is a form of black market of these anti-

biotics in Hungary, and it is usually in connection with people who have relatives in America. When the doctor knows of this, he writes out a prescription for the antibiotic and gives it to these patients. The patients write to their relatives in America and if they are successful in obtaining a package, turn it over to the doctor.

Does the physician dispense drugs?

Most general practitioners have some medicines on hand. However, most medicines are dispensed through pharmacies just as in this country.

Does the patient have to pay for these drugs?

He pays 15% of the price, the balance is paid by the State.

Sedatives

Are sedatives widely used?

I can hardly express in words the amount of sedatives used. I would say that about 70% of all the medicines used are of these types. Of this large group treated with sedatives, approximately one out of five are students with high blood pressure.

How do you account for this incidence of high blood pressure among students?

Young people of school age are over-burdened with school work and school hours. They have approximately 12 hours a day in the school's various activities. Eight years ago that was 6 hours a day.



The Lying-in clinic of the University in Szeged, southeastern Hungary.

Where does the Hungarian doctor consider the center of world medicine to be?

Western Germany, the United States and Switzerland.

Are many Hungarian physicians American-trained?

Some, but few Hungarian physicians completed school here in America. Of course, up to 1949 there was always a certain number of students sent over on scholarships.

What is the Hungarian name for these areas of practice we talked about before?

Each area is called a *Korzet* and the title of the doctor assigned to an area is *Kororvos*.

Journals

How many Hungarian medical journals are there?

Including the weekly and monthly medical journals I would say approximately twenty-five.

Are they distributed free?

The various institutions buy these periodicals for their libraries where they can be read. Individual physicians can buy subscriptions for their private use.

Are the Hungarian medical journals good journals in your opinion?

In my opinion they are very good. As a matter of fact, some of the better articles are abstracted by German and American medical journals.

Do the American medical journals reach Hungary?

The American medical periodicals are available in university clinics and in larger hospitals.

Are the American medical journals translated into Hungarian?

There are meetings for physicians once a week in general hospitals and twice a week in the clinics. The chief physician assigns an individual to summarize the best American articles for the benefit of the rest of the group.

This would presuppose that most doctors have a knowledge of English?

Not necessarily. The physician with this assignment can get the translation from other physicians having a knowledge of English. It is usually the older generation of physicians who know English. In addition to summarizing the English article into Hungarian, the physician must look through the Hungarian literature and add any additional material related to the particular problem being discussed.

Incomes

What is the average monthly income of the Hungarian physician?

There is a difference between doctors who work in hospitals and doctors assigned to *Korzets*. An area physician earns up to a maximum of 21 forints. Physicians assigned to hospitals receive less than that, starting with 1100 forints. If he were a general practitioner he could

go up to 1600 forints in the hospital. If he had his specialty degree then his salary ranged between 1900 and 2050 forints. If the hospital physician completed his daily work for the State and if he could manage to maintain a private office in the evening, he could have private patients. This was the only way that he could earn more money.

How much could he charge these "private" patients?

In the country the average fee was between 15 and 30 forints.

The area doctor received 2100 forints a month, no matter how many individual patients visited his office?

Yes.

What is the rate of exchange of the forint?

The official rate of exchange, which doesn't reflect the true value of the money, is 11½ forints for a dollar. (Black market quotations are approximately 100 forints for a dollar.)

Just as a means of comparison how much would an average pair of shoes cost?

300 forints.

The average suit?

About 1600 to 1800 forints, or approximately a month's salary for most physicians.

A large glass of beer?

About 1½ forints.

Do the doctors have automobiles?

There are approximately 13,000 doctors and only about 800 of them own automobiles. In order to obtain an automobile, a doctor had to request it from the State Council, the highest administrative body of the country.

Did membership in the Communist Party help to get an automobile?

The primary requisite for obtaining a license to own an automobile was Party membership and full cooperation with the Party. However, some physicians who were assigned to the country and whose area covered a large territory (some of them covered as many as eight widely separated villages), eventually got permission to have an automobile.

The monthly salary of a lawyer and an engineer would approximate what figure?

The salary of a lawyer or engineer starting practice ranges from 1100 to 1300 forints.

Skilled laborers?

A skilled laborer's average salary was between 1000 and 1300 forints. Of course, this is average, which means there were higher salaries and lower salaries among skilled workers. In general, in Hungary, the average salary of an employee was between 900 and 1100 forints.

What was the salary of the Party secretary?

An average Party secretary's salary ranged between 1500 and 2000

forints, depending on the assignment. However, all of them had expense accounts and nobody knew for certain how much money they actually spent. It was generally believed to be a large amount, however.

When a doctor was able to maintain a private practice after hours, where did his patients come from?

Usually the few people with higher income who wanted better medical service.

Do Party workers get preferred treatment?

For Party functionaries there are special sanatoriums, usually located in the most picturesque part of the country. These have the most up-to-date equipment and service, including five meals a day. These special sanatoriums, while owned by the State, were under the immediate management of the trade unions. Among the regular state hospitals some were especially designated for party functionaries and party secretaries who came from all over the country. Like the special sanatoriums, these had the most up-to-date equipment, and the best in food — including American medicines. For instance, their medical staff would consist of about twice as many physicians as would be on the staff of a general hospital for non-party workers.

Where are some of these special institutions located?

Some that I recall were in Gal-



"... I would like to go back to Hungary when the Communists leave there. I would like to spend some time in the U. S. . . . to learn the language . . . to work and study in my specialty."

yateto, Kekesteto, Matrahaza, Mecsek Udulo, and Javorkut.

Do you expect to return to Hungary?

Yes, I would like to go back to Hungary when the Communists

leave there. I would like to spend some time in the United States, first to learn the language, then to work and study in my specialty. Most of us hope to be able to return to our homeland when the Communists leave.

SPECIAL NOTICE

to All Residents



Resident

Physician

PAST issues of our journal have carried articles written by resident physicians. This you know. But what you may not know is that the majority of these articles have dealt with the personal experiences of the resident authors.

Judging from your letters, we believe these articles have been interesting and helpful to many of you. Already published have been resident-authored accounts of duty in the armed forces, jobs as summer camp physicians, benefits of an extra year in basic science study, problems of a foreign resident in the U.S., and many others.

PERSONAL

How about you? A personal experience? Or any other subject (non-technical) you have in mind which you think might interest other residents.

Here are a few ideas.

Perhaps you've had some time in general practice prior to your residency. If so, your reasons for leaving practice and for taking a residency would interest thousands of resident readers. So would your evaluation of your present training as it relates to your previous practice experience.

NURSES, ATTENDINGS

How about nurses? Do you have a system for getting their complete

cooperation in helping with your patients? How did you develop it? How could other residents make it work? Attendings, too. Is there a formula? Do you have it?

FOREIGN RESIDENT

Is the foreign resident all right? All wrong? What do you suggest in the way of constructive criticism or advice? Does he keep to himself or his own countrymen too much? Is this voluntary or is he forced into this situation by the attitude of other residents? What's your solution? Or, as a foreign resident, what do you think of the training attitudes and ideas of your American colleagues? Cooperative, friendly—or standoffish, antagonistic?

WOMEN ONLY

And what about you women residents; surely you have some pretty definite ideas about the special problems you've had to cope with, the attitudes of your colleagues, professors, attendings, patients. Perhaps you can help the masterly male MD see where he's wrong—or right in his judgment of your group. How about the facilities of your hospital—is there any allowance made for the fact that you're female? What's the toughest job you face in a predominantly male profession? (And if you wish to really tee off on the subject—we'll be happy to withhold your name from the published article.)

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SPECIALTY

Your specialty? Of course. How did it originate? Where? When? Why does it hold your interest. What's the current situation? Crowded field? How does it look for the next five or ten years? Do those M.D.s who criticize your specialty know what they're talking about?

RESEARCH, TEACHING

Missionary medicine? Have you tried it? What happened? Are you planning on it as a career? Why? Where? Or perhaps a career in the armed services is your particular cup of tea. Why? The VA? Public Health? Research? Teaching? Which have you chosen for your future and why?

FELLOWSHIPS

Did you ever get a fellowship award? How did you go about it? The details might spark other residents to give it a try.

HUMAN INTEREST

How about brief accounts on actual happenings in your clinics or wards which taught you a lesson or served to inspire you to further interest or increased dedication to your profession? Something a patient said. The human side of medicine presents much of interest and value. Your attendings or chief of service may have figured in this sidelight, too. . . . What did he do . . . or say that impressed you most?

AUTHORS

There are literally thousands of topics dealing with your past, present or future which could make fine reading and fun writing. We've only suggested a few to get you thinking. Your journal invites you to put yours down on paper so that other residents may have the benefit of your ideas and experience.

Can't write? Nonsense. No matter how rough your copy, syntax, spelling or grammar, our staff of editors will be glad to dress it up for publication. You can count on their help.

And just in case you hadn't heard, your journal will pay for acceptable articles contributed by residents.

NOW

How to get started? Simply drop us a note, today. Mention your idea. We'll be in touch with you by return mail with any suggestions we have to help you develop your subject into an article. Or send the article itself (typewritten double-spaced).

One more thing. The publisher tells us he will be happy to send a bonus check of \$150, in addition to

our regular payment, to the resident author whose article is judged most interesting and which is accepted for publication in 1957. So, we suggest you act promptly.

All outlines submitted, whether accepted or not by our editorial board, will bring the sender a handsome combination wallet and prescription pad-holder, compliments of RESIDENT PHYSICIAN.


Send your ideas right now (don't forget to include your return address) to:

Managing Editor

RESIDENT PHYSICIAN

1447 Northern Blvd., Manhasset, New York

Philip D. Bonnet, M.D.



Guest Editorial

The Financing of Graduate Medical Education

THE FORM OF INTERNSHIPS and residencies shows an interesting atavism. In them are displayed remnants of the several stages of their development. In many ways, they are such strange mixtures of tradition, philosophy, logic, illogic, expedients and improvisations that it is surprising that they work out as well as they do. Their purpose, of course, is to cultivate the art of medicine; and the cultivation of any art involves so many intangibles that a standardized production line is inappropriate. Even though one admits the difficulty of understanding and interpreting the many historical ingredients in residency programs, it must be recognized that, however imperfect they may be, they do produce a fine result.

Today, the financing of graduate medical education also involves many diverse and aged traditions such as the Hippocratic obligation to teach the art, monastic self-denial, the man of property who in return for his privilege undertook the obligations of a profession, the charitable foundation for the sick poor, and the apprenticeship.

Each of these involves elements of great value, most especially a spirit of dedication and humility.

To these traditions, however, have been added newer customs inherent in a changed social order where equality of opportunity for education, the separation of the practical or voca-



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Administrator
Mass. Memorial
Hospitals

tional from the theoretical or academic in educational practice, the alteration of the charitable hospital for the sick poor into a community service for all, and the virtual elimination of the sick poor are accepted goals.

When the new and, in the historical sense, recent technology of medicine with its accompanying specialization is added to other social forces, the multiplicity of influences bearing on the form of medical education—particularly on that part which deals not with the theories of medicine and medical science but with the practice

in the art of medicine—becomes evident.

An examination of residencies shows that there are four components—learning by assisting private physicians in the care of their patients, learning by caring for service patients, learning by teaching junior residents, interns, nurses and medical students, and learning by study and investigation.

The care of service patients was for many years in practice, and still is in theory, the foundation-stone of a residency program. The others were incidental or secondary. It is this fact more than anything else which has historically determined the stipends paid to residents. The economic structure was a three-way exchange of donated services without involving significant cash transactions. Although it had elements of an apprenticeship, it was more nearly akin to the master and scholar relationship in its earliest form.

The increase in purchasing power for health services through a higher standard of living, prepayment plans and enlarged government programs has reduced the extent of reliance on service patients.

As a result, there has been a growing emphasis on learning by study, such as formal conferences, and basic science programs; and *faute de mieux* on learning by assisting the private physician in the care of his patients. Interestingly, there has not been any special attention or emphasis given to learning by teaching. This trend, when allied to specialization and technology, has inevitably steered the residency more and more

into the direction of an apprenticeship with a few formalized educational activities.

At the same time, an inflationary economy, social encouragement of early marriage, and increasing demand for recruits in all scientific and technical fields, have made it increasingly difficult for an individual to afford both the time and money required for medical education, and particularly for the long periods of training and experience necessary for recognition as a qualified specialist. Simultaneously, the severe economic problems which have afflicted hospitals and medical schools have made it increasingly difficult to alleviate the financial stringencies of the residency years.

A new pattern has appeared in recent years in government hospitals, particularly those of the Veterans Administration, where the basic tradition has been the employment of physicians to care for patients who have been accepted as the responsibility of the Government. So compelling is the recognition and interest in graduate education and training, however, that government hospitals have recognized the value and importance of providing approved residency programs in order to attract a sufficient number of high grade men and to maintain a high quality of service to patients. This pattern is more nearly like the training programs in industry for executive and management positions.

There are also the more recent training grant programs of foundations and government agencies. In these the exclusive emphasis is on study and investigation with emphatic prohibition against the rendering of service to patients unless specifically related to the learning process.

Neither the older pattern nor the newer patterns can be looked upon as the final answer. Nor is it possible to outline a tidy blueprint for the ideal residency program and its financing. It can be said that the mold is being strained. Whether it will be bent into a new shape or will be broken cannot be foreseen. It is likely that there will be an acceleration in the continuing molding of the shape of the residency. There is reason to expect also that the financial stringencies now born by residents, hospitals and medical schools alike will be alleviated in the course of time. There is also reason to believe that that day would be hastened if the services rendered by

residents to patients and physicians were to be recognized for what they are — professional medical care services — and were also to be paid for as such; and if, simultaneously, the educational and teaching aspects of residency programs were to be recognized for what they are and paid for as such. The separation of the components of a residency program is admittedly a difficult matter requiring reasonable estimates and good judgment. But much more difficult problems have been overcome successfully. Progress is impeded by failing to make the attempt.

This is not to say that the resident would be required to pay directly for the educational expense, but rather to say that some means of financing the educational and teaching aspects of residency programs should be found other than including a steadily increasing amount for these activities in the patient's hospital bill. If society wishes hospitals and medical schools to assume an increasing responsibility for graduate medical education, a task which hospitals and medical schools are willingly undertaking, then society must create new methods of making adequate financial support available for that worthy purpose.

It is important to remember, however, that the objective of medical education in all of its devices, including internships and residencies, is to perfect and maintain the art of medicine. The solution of economic problems will not automatically assure the continuation of the art and in fact may be inimical to it. The practice of an art necessarily involves dedication and concentration, time and tranquillity. These cannot be purchased. They must be cultivated. The climate of the residency should be adapted to this end.

Clinico-Pathological Conference

From the Haynes Memorial, Division of Massachusetts Memorial Hospitals, and the Departments of Medicine and Pathology, Boston University School of Medicine.

*N. Joel Ehrenkranz, M.D.¹ Richard H. Meade III, M.D.²
and Sheldon C. Sommers, M.D.³ (May 21, 1956)*

A 5½-month-old female infant of Italian ancestry was hospitalized because of cyanosis with coughing for 5 days. Her mother had previously had a miscarriage and a premature child dying after 6 days.

The child was born at 7 months, just under 5 lbs., and birth weight was regained after 2 months in the hospital, during which time a cervical abscess was drained. There were no immunizations, but at 3 months the baby was considered healthy.

Prior to admission

Eight weeks before admission, after exposure to pertussis, she began to breathe heavily, with excessive mucus in the throat. She was given nose drops, cough syrup, and pertussis vaccine in 7 injections, 8, 7, 6, 5, 4, 3 and 2 weeks before hospitalization. Pencillin was injected twice. The child continued to cough severely, without definite whoops, and then began to show cyanosis and excessive mucus.

¹ *Research Fellow in Infectious Diseases*

² *Associate Visiting Physician, Department of Infectious Diseases*

³ *Chief of Pathology*

From the Haynes Memorial Division of Massachusetts Memorial Hospitals, and the Departments of Medicine and Pathology, Boston University School of Medicine.

Physical examination

On admission, T 100.8° (R) P 170 R 70. A seriously ill, poorly nourished infant with a thick tenacious white mucus mass in the mouth which was aspirated with difficulty. Slight miliaria rash was present, and hair absent over the occiput. Mouth and throat were injected. The lower chest retracted inward with inspiration, and there were moist rales over both lungs, with coarse breath sounds. Expiration seemed prolonged. Small umbilical hernia was found, and examination was otherwise negative.

Laboratory data

Hinton and tuberculin tests were negative; Schick positive. HB 9.6 gm., 11.6 after a 70 cc. transfusion. WBC 20,500 to 39,600, P 63, L 36, M 1, E 0. Cultures of blood: 2 showed no growth, 1 non-hemolytic staphylococcus, non-hemolytic staphylococcus and alpha streptococci in the throat, and later *H. influenzae*. Spinal fluid was negative. X-rays showed accentuated markings with a triangular left lower lobe density, consistent with bronchopneumonia and atelectasis. Later, increased density was found in right lower lobe. Slow radiologic resolution occurred over a 21-day period, but with extension in the right upper lobe.

Course

During 27 days there was a gradual decline. Oxygen tent, 1:1000

adrenalin 0.1 cc. ephedrine 0.08 gm., penicillin 15,000 units and streptomycin 100 mg. were used. Three injections of hyperimmune anti-pertussis serum and 4 blood transfusions were administered. The liver became enlarged 3 days before death, but after digitoxin the pulse of 160 fell to 130. Cough was relatively weak and no sputum was ever raised.

Anemia

Dr. Ehrenkranz: This is a very complicated problem. I might point out a few unrelated things as I review the protocol.

The Italian ancestry raises the question of whether or not this child might have Cooley's anemia. There is no mention of the physical findings that would be consistent with this, such as mongoloid facies, hepatosplenomegaly, and evidence of jaundice.

The anemia is, I suppose, more consistent with infection, although other possibilities at the moment are not to be ruled out. The fact that the mother has had a miscarriage, a premature child that died, and the patient also was premature may not be significant. On the other hand, this is the time—late in pregnancy—when, particularly due to syphilis, the mother is likely to miscarry. Six or seven month abortions are not infrequent with involvement of the placenta by lues.

We are told that the child's Hinton test was negative, and presuma-

bly if the child was born in this state the mother's Hinton test also must have been done and was probably negative. We might conclude that this is a mother who happens to have early children, some of whom survive and some who don't.

The fact that the child was born weighing five pounds at just seven months suggests that this mother is prone to having big children. Most of this extra weight is probably edema. If she is having miscarriages and big children the question presents itself in passing of whether or not the mother has diabetes, or is going to have diabetes. We also would like to know if there was any rH incompatibility that conceivably might account for some of these difficulties. These are all speculations. Now to the heart of the problem.

Abscess

A cervical abscess was drained while the child was in the hospital after birth. We know nothing more about that, and it would be nice if we did. The problems in hospital wards with infection of the newborn frequently fall into two groups. One involves the beta hemolytic streptococcus, the other the hemolytic *staphylococcus aureus*. Barber¹ has written a great deal about the latter. The involvement is not infrequently with conjunctivitis and nasopharyngitis. The infant's response is not usually abscess localization. I am a little surprised that a child of that age was able to form an abscess.

One would certainly like to know whether or not there was *staphylococcus aureus* present. We learn later on that there was a blood culture with *staphylococcus aureus*, and the child developed pneumonitis. This abscess might be a very important finding. With a cervical abscess, there may have been staphylococci that were not completely removed and possibly served as a focus for further extension of infection.

There were no immunizations and the child was considered healthy.

Pertussis

Now at about eight weeks prior to admission, the plot begins to thicken. The child is exposed to pertussis. She begins to breathe heavily and has excessive mucus in the throat. She is given nose drops and pertussis vaccine. It is difficult to evaluate the impact of the pertussis vaccine. I suspect that if she were breathing heavily and had excessive mucus the vaccine had at best little value. A theoretical point that just crossed my mind is that it might have made the situation worse by binding up any available antibody that the child had already been able to produce. In any event, the vaccine was not very beneficial.

The child continued to cough severely without definite whoops. The absence of whoops is of little diagnostic value. Classic whooping in infants under six months with pertussis is not common. One usually suspects a foreign body with whoop-

ing in this age group rather than pertussis. Thus, whooping cough is still an excellent possibility in this situation.

Tenacious mucus

On admission, we have an acutely ill child, said to show cyanosis. There is this thick tenacious white mucus mass which can be moved with difficulty. I would like to have a better description of that. I presume it represents material that had been raised from the bronchi. On the other hand, it is conceivable that this represents monilia or that it might even represent another unusual infection. The fact that somebody tried to aspirate it suggests that it was not attached and probably then represents bronchial secretions.

Dr. Sommers: The record describes the mass in the pharynx as thick gelatinous white mucus. No membranous attachment is mentioned.

Dr. Ehrenkranz: Gelatinous mucus raises the ugly possibility that we are dealing with Klebsiella infection. It is conceivable then that what we are dealing with is a secondary infection, with the possibility either of Aerobacter or Klebsiella species.

The absence of hair over the occiput I don't think is very significant, but just represents the child having rubbed against the bed clothes.

Test negative

There is obviously some plugging

of the bronchi. That the child retracts the chest with inspiration, the presence of the rales, coarse breath sounds, and the trouble in expiration suggests that there is difficulty in moving air in and out of lungs. This thick tenacious material which is present in the throat is also likely present in the lung and is producing a significant disability.

The tuberculin test being negative does not vitiate the diagnosis of tuberculosis in this situation, Zuelzer² has described a group of patients with miliary tuberculosis in the neonatal period who had negative tuberculin tests. On the other hand, there is no evidence of miliary dissemination or of tuberculosis in the meninges, so we will have to put that diagnosis low on our list. A twenty thousand per cubic mm. white cell count is perfectly consistent with pertussis; however, the increased numbers of polymorphonuclear cells are strongly against uncomplicated pertussis. If the child has pertussis, it is very likely that she also has a secondary infection.

The significance of a single positive blood culture is difficult to weigh. It could be somebody's fingers provided the non-hemolytic staphylococci; on the other hand, the fact that the child has known sepsis elsewhere suggests it may have spread to the blood stream.

Atelectasis

With the x-ray reports and the rest of the clinical picture, the pos-

sibility that I am inclined to favor is that the lung densities represent atelectasis behind mucous plugs. It is likely that these densities may represent small staphylococcal abscesses which become larger, with seeding of staphylococcus aureus into the blood stream, and further involvement of the lungs. This is not infrequently seen.

We might at this point diverge for a moment. We have a child who has tremendous tachycardia, is cyanotic, and who was born somewhat prematurely. The question of congenital heart diseases arises. If this situation exists, secondary infection again would be a very good possibility. Septicemia, multiple lung abscesses, brain abscesses, and acute endocarditis have all been described, particularly when there is a right to left shunt. Unfortunately, I am unable to make any such diagnosis in the absence of any more physical signs, and must conclude that the cyanosis was due to inadequate ventilation and not to congenital heart disease.

Resistant organism

The therapy was apparently to no avail. It is not too unreasonable, therefore, to assume that if the infection were picked up in the hospital, the cervical abscess being the initial site, that the *staphylococcus aureus* was a highly drug-resistant organism. The likelihood of its being susceptible to penicillin and streptomycin treatment would then

be remote. We do not have any cultural evidence of *Hemophilus pertussis*. This does not really surprise me, since it is sometimes hard to grow these organisms, and the time elapsed since exposure is such that there is only about a 50% chance or less of getting the organisms to grow out.

The terminal enlargement of the liver suggests heart failure. It does not tell us, however, the etiology or the mechanism of the heart failure. Conceivably, if the child had a severe enough lung infection, resultant cor pulmonale would not necessarily imply an underlying heart disease. Having mentioned cor pulmonale, I have the thought of multiple pulmonary emboli. This is a situation with which I am totally unfamiliar in small children, if it exists. Nonetheless, it would explain much of what we have seen here, particularly if these were infected emboli. Where would they be coming from? I would have no idea. It seems to me difficult to envision thrombophlebitis as responsible in this instance.

Lung involvement

I will summarize the situation by wondering if the cervical abscess which was originally present did not represent a staphylococcus infection. The child did perhaps get pertussis, which was secondarily infected either from the cervical abscess or a staphylococcus from elsewhere. The course of events then was staphy-

lococcal pneumonitis with multiple foci of lung involvement. Her response both in terms of the therapy she received and her own innate resistance was inadequate, with a resulting severe plugging of the bronchi, and death with right failure.

The question of whether or not she could have had mucoviscidosis is an intriguing one. In the absence of evidence of dysfunction of the pancreas by direct study, and sweat studies of the skin, I can't rule it out. It would fit the whole picture very nicely. I would like also to entertain this as a serious possibility. I should like to know if the stools were ever examined for absence of enzymes.

Dr. Sommers: Stool was described as sticky, but the case antedated any routine enzyme testing.

Lung culture

Dr. Meade: The patient was probably admitted during the late 1940's because at that time we were using hyperimmune serum to treat patients who were too young to be able to protect their airway or too weak to get rid of secretions. Children under the age of one year often do not whoop and are unable to clear their lungs effectively of the viscous material.

The *H. influenzae* which was reported on culture from the lungs is probably of importance since it is often responsible for diffuse tracheobronchitis or bronchiolitis. The clinical signs of this type of disease

are those of asthma because of difficulty moving air past narrowed bronchioles. I think it was for the asthmatic component of the infection that the child was given both the adrenalin and the ephedrine.

Atelectasis appearing in one or more lobes of the lungs, especially in children who have had whooping cough over a long time, seems to be due to several varieties of obstruction. One arises from retention of or aspiration of secretions. The other is due to enlargement of hilar nodes and compression of bronchi. Pneumonia with atelectasis as the primary basis is a common problem in very young as well as older children.

Obstructive infection

In discussing this patient's cervical abscess, it is quite reasonable to assume that it was due to pyogenic infection, but one must remember the possibility that a cervical abscess may actually be due to tuberculosis. However, I tend to regard the whole course from the time she developed the cough as one of whooping cough in a young child who was, first, too young to get whooping cough safely, and secondly, who was a prematurely born child, and thirdly, who as a result of both retained secretions and secondary infection with *H. influenzae*, developed obstructive lung disease.

I think heart trouble developed here primarily on the basis of obstructing pulmonary infection.

One final statement about the

treatment here. I am not sure exactly what year it was, so I don't know what drugs were available. If we assume it was during the late 1940's, it was just about this time that staphylococci were receiving belated attention for their recognized ability to become resistant to antibiotics.

In reference to Dr. Ehrenkranz's comments about staphylococcal pneumonia, I agree that this is a possible complicating disease in pertussis, but it is not so common an infection as the pneumonia due to *H. influenzae* or *pneumococci*. The problem of staphylococcal empyema is quite serious in children, and it may develop despite antibiotic treatment if this is not started in time.

My diagnosis is whooping cough complicated by pneumonia probably due to *H. influenzae*, and also cor pulmonale secondary to pulmonary obstruction changes.

Major process

Dr. Sommers: The history is as complete as was available, and there does not seem to have been any history of exposure to tuberculosis. This is an old case, as Dr. Meade has suggested, from 1947. We are forced back that far partly because this is a rather unusual case at autopsy, in my experience.

The major process which caused death was indeed in the lung and, as described by both speakers, there was a very severe bronchitis and bronchiolitis, part of which had organized. There was, thus, a bron-

chiolitis fibrosa obliterans type of reaction, with peribronchitis, peribronchiolitis and abscesses. Every bronchus and bronchiole was plugged with some form of exudate, and their lumens were replaced partly by fibrous tissue.

Abundant mucus

There was also abundant very sticky eosinophilic mucus in the larger bronchi, absent from the bronchioles. In the pathology of pertussis, described by F. B. Mallory³ over 40 years ago, the bacteria are clustered on the cilia of the respiratory tract. This is a characteristic localization, but I was not able to find any evidence of it. The disease had now gone so long that it was clinically referred to as post-pertussis, and I have no way of ruling it out or in. It would be a matter of clinical opinion in the absence of any bacteriological proof.

What was surprising was the amount and the apparent solidity of the mucus in the larger bronchi. It was as if mucus plugs in medium and larger sized bronchi had caused stasis behind which the stagnant secretion became infected with the organisms found, including staphylococci, streptococci, and *H. influenzae*. These then grew out as peribronchitis, with many little lung abscesses. No gross lung abscesses were found. These abscesses then organized. The infection of itself was not of a particularly lethal type, as judged by the pathology. The

major difficulty that this child had, about which something might have been done, was obstruction of the larger bronchi by the unusually sticky mucus material.

Pancreas altered

The other major finding was in the pancreas, which was markedly altered microscopically. There was really no normal part found. The large ducts were usually cystically dilated and filled by a laminated inspissated eosinophilic secretion which irregularly distended the smaller ducts, the terminal ducts and acini. The pancreatic acinar tissue was rather atrophic. There was no particular inflammation. This is the typical pathology of cystic fibrosis of the pancreas, as a major part of so-called muco-viscidosis.⁴ Obstructed mucous secretion interfered severely with the function of both lung and pancreas. The lung complications eventually proved fatal. The final episode seems to have been heart failure, since the right side of the heart was strikingly dilated, and the diagnosis was made of acute cor pulmonale.

Dr. Meade, what is the present-day therapy of this disease?

Dr. Meade: The emphasis on treatment for these patients is to protect them against pulmonary infection, which is generally the cause of death. Ordinarily, such children are now given some broad spectrum antibiotic, generally not in too great a dose, but in large enough dose to

suppress the development of pulmonary infection. Many have done quite well. They are also given pancreatic enzymes as well as special diets.

This child is one in whom some attempt to dissolve or remove secretions obviously had to be made. I don't know if they used a croup tent. Certainly oxygen alone would have been a very poor thing to use, because it would further dry the secretions. Aerosolized oxygen is a very useful adjunct to treatment. I think, in general, any child who has tracheobronchitis, regardless of its etiology, should be treated with steam or other water vapors. More recently, trypsin has been recommended. In my limited experience with it, no appreciable change occurred. Alevaire has also been used with equivocal results. Removal of secretion from this child's lungs may well have been of exceeding importance. The double impact of pertussis and influenza bronchitis, however, were in themselves sufficiently severe to have been responsible for death in a child of weakened condition and extreme youth.

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Massachusetts Memorial Hospitals

A next-door neighbor and hospital partner of the Boston University School of Medicine, the five memorial units of "Mass Memorial" are linked in residency training with twelve other New England hospitals. In its 102nd year of operation, the institution currently offers residencies in thirteen specialties and a unique Home Medical Service.

Between the Skid Row of the ramshackle South End and a crooked inland finger of Boston Harbor squat the main buildings of Massachusetts Memorial Hospitals, one of the busiest—and closest quartered—cells in Boston's medical beehive.

So heterogeneous are the activities and interests of this 101-year-old institution that they have overflowed into the adjoining tenement blocks (pathology, accounting and animal house are in converted walk-ups), down onto plush Commonwealth Avenue (where the Medical Associates, a group of practicing staff members, have their offices) and out to the other side of the city (industrial rehabilitation and infectious

diseases at the Haynes Memorial—"a hospital within a hospital").

But the most famous of the hospital's many faces are three: its traditional partnership with the next-door Boston University School of Medicine; its independently endowed Evans Memorial Department of Clinical Research and Preventive Medicine; and its world prototype Home Medical Service.

Homeopathic

The hospital was founded in 1855 as the Massachusetts Homeopathic Hospital and soon became one of the country's leading rebels against the purging and drug mania of the day—so much so, in fact, that a

Teamwork and concentration are apparent in this candid photo of Mass Memorial residents in the operating room.



This view of the main building of Massachusetts Memorial Hospitals shows the Evans (left), Collamore (center) and Robinson memorials.

group of its founding physicians was expelled from the Massachusetts Medical Society twenty years later.

Seven years earlier, in 1848, the Boston Female Medical College initiated the pioneer program of medical education for women in the United States—teaching homeopathy, incidentally—and in 1873 was taken under the wing of Boston University as its School of Medicine.

In 1929 the present name of the hospital was adopted to make it more apparent that it is a complex of five memorial units—the Evans, the Robinson, the Collamore, the Talbot and the Haynes.

Faculty ties

The ties linking the hospital and the School of Medicine have per-

sisted and strengthened with the passage of time. The title of Chief of Service carries with it a professorship at the School of Medicine, and most hospital staff members are on the faculty. A recent step toward the formalization of this relationship was the appointment of Dr. Chester S. Keefer, who is Physician-in-Chief at the hospital and Director of the Evans, as Director of the School of Medicine. Dr. Keefer is also Wade Professor of Medicine.

"Mass Memorial" is a voluntary non-profit hospital with 316 beds and 24 bassinets, admitting about 8,000 patients annually, handling more than 40,000 visits to the Out-patient Department, providing instruction for some 700 students in various capacities and spending in

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excess of \$400,000 on research activities.

Research

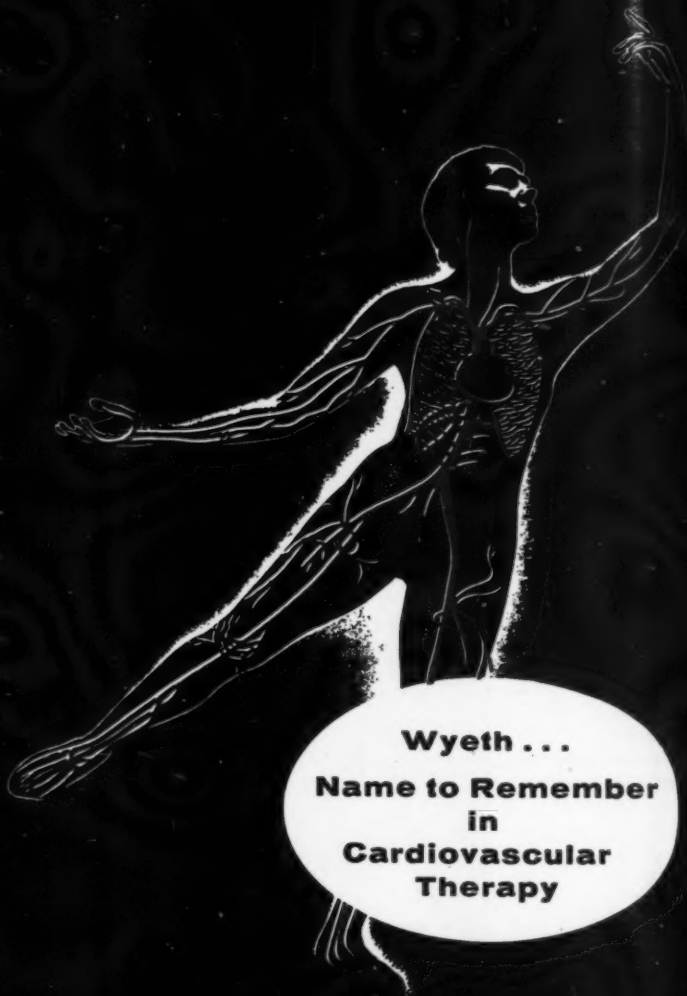
Medical research under the sponsorship of the Evans and surgical research under the Smithwick Foundation have concentrated in such fields as cardiovascular disease, cancer, hematology, gastroenterology, clinical immunology, infectious diseases, metabolism, dermatology, endocrinology and radiology.

The hospital provides clinical teaching facilities for third and fourth-year students of the Boston University School of Medicine, who also receive a substantial portion of their training at Boston City Hospital.

The Infectious Diseases Service at the Haynes, which carried a major burden in the state's 1955 polio epidemic, is used as well by students at Harvard Medical School and Tufts University School of Medicine.

Dr. Robert W. Wilkins, Associate Physician-in-Chief and Professor of Medicine, Boston University School of Medicine, lectures on his specialty, cardiovascular diseases, in the amphitheatre of the Evans Memorial. Dr. Wilkins is President-elect of the American Heart Association.





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INJECTION
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Wyeth

Philadelphia 1, Pa.



Bedside teaching plays an important role in resident training at Mass Memorial. Instructor is Dr. Chester S. Keefer, Physician-in-Chief and Director of the Evans Department of Clinical Research and Preventive Medicine.

Affiliations

There are formal affiliations with other hospitals (in which a resident might serve by rotation) in the following specialties: Boston City Hospital (fractures, psychiatry, obstetrics-gynecology), Providence, R. I., VA Hospital (general surgery), Mattapan Hospital (thoracic surgery), Lynn Hospital (urology, orthopedics), Huggins Hospital, Wolfeboro, N. H. (pathology), Lemuel Shattuck Hospital (radiology, dermatology), Children's Hospital (radiology),

Massachusetts Eye and Ear Infirmary (radiology), Boston State Hospital and Putnam Children's Memorial Center (psychiatry), Beth Israel Hospital and Boston VA Hospital (otolaryngology).

Home medical care

Other teaching activities of the hospital include its School of Nursing, School of Medical Technology, School of X-Ray Technology, courses in pastoral training, and affiliation with the Boston University

Schools of Nursing and Social Work.

A unique opportunity is available for residents on the Home Medical Service, which provides medical care at home for indigent non-ambulatory patients in a designated area of the South End housing some 55,000 persons, ten percent of whom are seen annually.

Special services

Two special services have been recently inaugurated at Mass Memorial. The In-patient Psychiatric Service, with 17 beds in the main building, provides on-the-spot treatment primarily of psychosomatic and psychoneurotic problems, as well as the early stages of the more serious but temporary mental disturbances that develop in the course

of treatment of somatic illness in a general hospital.

A Rehabilitation and Physical Medicine Service, operating under a grant from the U. S. Office of Vocational Rehabilitation, is open to ambulatory patients, industrial cases and in-patients of all types for physical and occupational therapy, speech therapy, vocational guidance and psychometric testing. The Industrial Rehabilitation Department at the Haynes Memorial provides long-term care and treatment of paraplegics with the cooperation of the Liberty Mutual Life Insurance Company.

Residency approval for another new service, Neurology, is pending.

The current house staff at Mass Memorial includes nine interns and

APPROVED RESIDENCIES MASSACHUSETTS MEMORIAL HOSPITALS

SERVICE	CHIEF OF SERVICE	NUMBER OF RESIDENCIES
Anesthesia	Ernest A. Sneddon	4
Dermatology	Herbert G. Mescon	3
Home Medical Service	Henry J. Bakst	2
Infectious Diseases	Louis Weinstein	3
Medicine	Chester S. Keefer	5
Obstetrics-Gynecology	Langdon Parsons	4
Ophthalmology	Trygve Gundersen	2
Orthopedics	Kenneth Christophe (Acting)	2
Pathology	Sheldon C. Sommers	3
Psychiatry	William Malamud	11
Radiology	George Levene	4
Surgery	Reginald H. Smithwick	22
Urology	Samuel N. Vose	3



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Grass roots medicine (at left) brings the resident to the bedside of this young patient in the child's home in Boston's South End. Program is part of Mass Memorial's Home Medical Service unit. Below left, resident interviews youngster as a phase of child development study conducted by Mass Memorial's psychiatry department.

sixty-six residents. There are twenty research fellows in addition; and residents, of course, are in an excellent position to seek opportunities for research and further graduate training. There are approximately 250 members of the attending staff and 350 on the nursing staff.

Activities

Specific activities attended by residents include regularly scheduled grand rounds, C.P.C.s, journal clubs, x-ray and pathological conferences, ward rounds, chart rounds, seminars, departmental conferences,

"death conferences," subspecialty rounds in medicine, vascular rounds, tumor clinic meetings, staff conferences and postoperative clinics.

Furthermore, there are opportunities (when the time can be found) for savoring Boston medicine; the New England Postgraduate Medical Institute publishes a monthly listing of medical meetings and activities scheduled in the New England area.

Residents are also invited to attend sessions of the Begg Society, a School of Medicine undergraduate scientific group, and of the Benjamin Waterhouse Medical Historical Society, another BUSM activity.

Reference reading

Excellent library and reference facilities are at hand or nearby. The Evans Reading Room — two floors below the house officers quarters and one below the operating rooms—contains all popular current medical journals and some refer-

SCHEDULE OF ACTIVITIES MASSACHUSETTS MEMORIAL HOSPITALS

DAILY: Student rounds, ward rounds (except Thursday)

WEEKLY: Surgical grand rounds, medical grand rounds, OB-GYN staff meeting, surgical pathology conference, surgical staff meeting, vascular rounds, tumor clinic meeting, medical pathological conference, neurological rounds, gastroenterology conference, clinical conference on psychiatry

MONTHLY: Staff clinicopathological conference

QUARTERLY: Meeting of the Medical Staff



Expert nursing care and modern equipment aid rehabilitation of paraplegics in wards of the industrial rehabilitation department at Haynes Memorial unit.

ence works. The School of Medicine library, across the street from the hospital, has 25,000 volumes and 525 journals. A couple of miles away is the famed Boston Medical Library.

Recreation

While space demands do not permit extensive hospital recreational facilities for house officers, a recreation room has been set aside for them, with pool and ping-pong tables and television.

Mass Memorial, however, is only a few minutes from downtown Boston, where can be found such varied attractions as the Boston Symphony Orchestra; the Red Sox, Bruins and Celtics; the summertime Arts Festival; swan boats in the Public Garden; Locke-Ober, Jake Wirth's and Durgin-Park restaurants; and a

theater district where Broadway hits are born.

And of course the mountains, lakes, streams, fields and coast of New England offer off-duty recreation within short distances of the city.

Stipends

Basic stipends for residents vary from \$50 to \$150 a month, depending upon the service; this includes full maintenance — meals (in the hospital cafeteria), room, laundry and three uniforms. This schedule is currently under study with a view toward upward revision, and it is worth noting in passing that the intern stipend recently was raised from \$25 to \$75 a month, effective July 1, plus full maintenance (including six uniforms).

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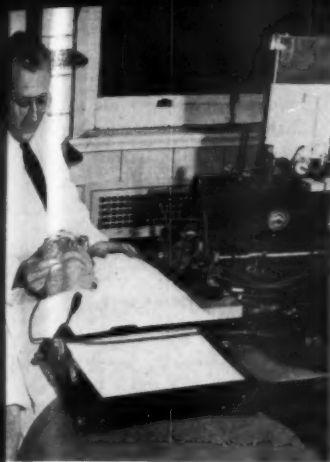
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Typical of the extensive research and diagnostic equipment at Mass Memorial is this balloon kymograph, here demonstrated on a patient in gastroenterology.

Two exceptions to this schedule should be mentioned. Psychiatric residents—under a grant from the United States Public Health Service—receive \$2400 in the first year, \$2800 in the second, \$3400 the third, and \$4000 in the fourth and fifth, with no maintenance. And under a

special fund, residents on the Home Medical Service receive \$2500 plus \$500 for transportation costs—also without maintenance.

Benefits, dependents care

Fringe benefits for house officers include: maximum Blue Cross individual benefits at hospital expense, with no charge for hospitalization in excess of this coverage. Health Clinic and OPD services are provided at no charge.

Dependents of house officers receive a ten per cent discount on the hospital bill (exclusive of "non-hospital services" such as transfusion blood, guest meals and so forth).



At right, orthopedic residents put the finishing touches on plaster cast.

Where Blue Cross is carried, the discount applies only to that portion of the bill for which the house officer is responsible.

House officers receive two weeks annual paid vacations at the discretion of their chief of service.

Housing

While housing for married residents is their own responsibility, the administration helps wherever possible. Although the immediate neighborhood of the hospital is not particularly desirable, small, comfortable and clean apartments may be obtained for \$55 to \$60 a month. A somewhat larger outlay for rent commands an apartment in the more fashionable Back Bay or

Beacon Hill section of the city.

Job opportunities for the wives of residents are varied, and no difficulty should be anticipated in finding pleasant work nearby—either at the hospital, the School of Medicine, Boston University or elsewhere in Boston.

For additional information regarding the residency program, inquiries may be addressed to Walter C. Lamb, M.D., Assistant Administrator, Massachusetts Memorial Hospitals, 750 Harrison Avenue, Boston 18, Massachusetts. (*The editors wish to thank Dr. Lamb and Mr. Joseph E. Garland, Director of Public Relations at Massachusetts Memorial, for their cooperation in preparing the foregoing article.*)



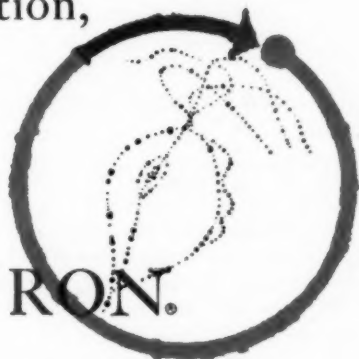
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Even stubborn
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because Tricofuron
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during menstruation,
the critical time
for therapy.



TRICOFURON.

Recurrences of trichomoniasis "are most likely to follow the menstrual period."¹

"Over and over again today patients are seen with what is said to be an intractable, treatment-resistant Trichomonas infestation, but history-taking often reveals that such patients have never had treatment prescribed during any menstrual period."²

Menstrual blood in the vagina "forms an excellent medium for the rapid multiplication of *T. vaginalis*"³ and "lowers the acidity of the vagina and hence there is a tendency to recrudescence [of trichomoniasis] at that time."⁴

Tricofuron is powerfully trichomonocidal "even in the presence of vaginal debris and menstrual blood."³

*For 44 of 48 patients: lasting cure was obtained with a single course of Tricofuron therapy.*³

Vaginal Suppositories—for home use—each morning and night through one cycle, including the important menstrual days. Contain 0.25% Furoxone® (brand of furazolidone) in a water-miscible base. Box of 12, each sealed in green foil.

Vaginal Powder—for office use—applied by the physician at least once a week, except during menstruation. Contains 0.1% Furoxone in an acidic powder base. Bottle of 30 Gm.

References: 1. Bernstine, J. B., and Rakoff, A. E.: *Vaginal Infections, Infestations and Discharges*, New York, The Blakiston Company, Inc., 1953, p. 235.
2. Overstreet, E. W.: *Arizona M.* 10:383, 1953.
3. Schwartz, J.: *Obst. Gyn.*, N.Y. 7:312, 1956.
4. Crossen, R. J.: *Diseases of Women*, St. Louis, The C. V. Mosby Company, 1953, p. 292.

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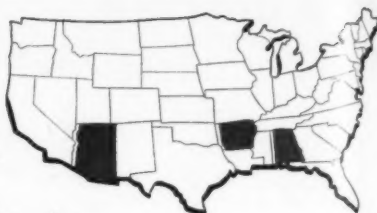
NORWICH, NEW YORK

Nitrofurans—a new class of antimicrobials—neither antibiotics nor sulfonamides

March 1957, Vol. 3, No. 3

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Licensure for Foreign Graduates



in Alabama, Arizona, Arkansas

ALABAMA

An applicant for a license to practice medicine in Alabama must fulfill the following requirements.

● Be a full citizen of the United States.

● Be a graduate of a school approved by the Council on Medical Education of the American Medical Association. If a graduate of a school *not* on the approved list, he must have at least two years formal training in a medical college in the United States.

● An approved internship is required of all applicants.

● Reciprocity is extended only to those foreign graduates who are

licensed by National Board of Medical Examiners.

For further information, write to the Office of State Board of Medical Examiners, State Office Building, Montgomery 4, Alabama.

ARKANSAS

Arkansas law prohibits the Board from accepting graduates of foreign medical schools.

ARIZONA

Arizona requires that the applicant:

● Be a citizen of the United States or has declared his intention.

Each state of the United States has established its own regulations for licensing physicians to practice medicine within its boundaries. For the U. S. medical school graduate, rules are much the same from state to state. But for the graduate of a foreign medical school, there are important differences.

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"... by far the most effective

and useful orally administered agent for reducing blood pressure... fully worthy of a trial in every case of essential hypertension in which treatment is thought necessary. The severe cases, which always need treatment, are as likely to respond as the mild."¹

1. Locket, S.: Brit. M.J.
1:809 (Apr. 2) 1955.

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"... relief from anxiety resulted in generally increased intellectual and psychomotor efficiency with a few exceptions."² Rauwiloid is outstanding for its *nonsoporific* sedative action in a long list of diseases burdened by psychic overlay.

2. Wright, W.T., Jr., et al.: J. Kansas
M. Soc. 57:410 (July) 1956.

Dosage: Merely two 2 mg. tablets at bedtime.
After full effect one tablet suffices.

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Riker LOS ANGELES

If such declaration fails to obtain admission to citizenship within the time prescribed by law, then the license shall be void.

● Be a graduate of a school listed and approved by the Council on Medical Education and Hospitals of the American Medical Association, and the Executive Council of the Association of American Medical Colleges.

● Serve an internship of at least one year in an accredited hospital in the United States or Canada.

● Qualify in the basic sciences by written examination or reciprocity with Basic Science Certificates obtained in the state having similar requirements.

RECIPROCITY is granted to foreign graduates with qualifications.

First, an applicant must file with the Board a diploma issued by a legally chartered college of medicine whose requirements, at the time of graduation, are not less than those prescribed by the Association of American Medical Colleges for that year.

Second, if reciprocity is sought on the basis of a license held in another state, such license must be current and have been obtained by written examination. The applicant must also submit evidence that at the time of application, he is an ethical practitioner and has been engaged in active practice for not less than three years. An applicant may be issued a reciprocity certificate upon filing a certificate issued by the

A License to Practice

The entire philosophy of state licensure is to insure the American public the highest possible level of professional competence in medical care. For foreign-born graduates of foreign medical schools, and for American-born graduates of foreign medical schools, the licensure requirements of most states represent a serious obstacle.

In some states it is impossible for the foreign-trained physician to obtain a license. Proud of his own training, the foreign-trained physician is apt to resent this and wrongly conclude that these states prohibit licensure of foreign-trained physicians solely because they are *foreign-born*. (This is not true. American-born physicians trained abroad meet exactly the same exclusion in these states.) However, it is true that certain states make this exclusion because they do not believe they have adequate facilities or criteria at present for examining each foreign-trained physician who wishes to apply for licensure.

For some time there has been a growing effort to establish a uniform medical practice act acceptable to all states. But in the interim, the foreign-trained resident must check individual requirements established by the state in which he desires to practice in order to determine his eligibility for licensure.

It is to make this task a little easier that **RESIDENT PHYSICIAN** presents this series of articles on state licensure requirements.

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National Board of Medical Examiners.

An applicant for a reciprocity certificate who files with the board proper evidence of honorable discharge from any of the armed forces of the United States, shall not be required to furnish character testimonials, or evidence of three years ethical practice.

Further information may be obtained by writing to the Board of

Medical Examiners, State of Arizona, 411 Security Building, Phoenix,, Arizona.

It is advised that the first letter should set forth:

- 1) Citizenship status
- 2) Complete name and location of medical school, and the exact day of graduation
- 3) Name of institution and date of internship
- 4) Any other state licenses held.



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The Heart and the Law

The influences of age, exertion and environment on cardiac physiology have long been a challenge to medicine. Yet, with only some knowns and many unknowns, the law must make decisions. Here are some of the ways in which "heart cases" have been resolved.

George A. Friedman, M.D., LL. B.

There is a substantial difference of opinion as to the etiological relationship between coronary thrombosis and trauma. Master and Jaffee¹ believe that under the ordinary traumatic circumstance it is highly improbable that coronary occlusion is a sequential result. Where there is a severe crushing fracture of the chest involving rib fractures as well as a contused myocardium there can be muscle injury of the heart within which a thrombus forms.

On the basis of his study of 105 patients, Kapp² concluded:

- (1) Occurrence of coronary heart disease following trauma is not rare or coincidental,

- (2) Trauma is often underestimated as a precipitating or aggravating factor,
- (3) Cardiac damage often goes unrecognized,
- (4) Trauma may be defined as not only physical, *but also emotional stress.*

Texon³ emphasizes the extreme variability of possible relationships between trauma and coronary heart disease. Most medical men will admit that some form of trauma can be a cause of coronary insufficiency. This resembles angina pectoris except that the myocardial ischemia is more severe and the pain more prolonged. In about 95 percent of the cases of coronary insufficiency



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Philadelphia 1, Pa.

the diagnosis can be made by the electrocardiogram alone. In coronary occlusion there is R-ST elevation in the precordial leads and also deep Q-waves. In insufficiency in the lower row of chest leads VI to V6 there is marked R-ST depression.

White⁴ has stated that coronary thrombosis with myocardial infarction is not the result of trauma based upon the experience of many observers of many hundreds of cases except in a few cases of coronary atherosclerosis.

Some medical authorities however⁵ admit that the so-called steering-wheel cardiac injury is the direct or substantial cause of certain serious heart damage.

Activity

Master's studies¹ reveal that effort can precipitate coronary insufficiency but not coronary occlusion. He showed that only two percent of the attacks of coronary thrombosis occurred while patients were engaged in unusual physical activity. Thus the state of activity or inactivity is no factor in the precipitation of coronary occlusion.

Further, if effort were a factor then it would follow that most of the attacks would attend during the day-half of the twenty-four hours. However, just as many occur during the night-half with most taking place between ten in the evening and 2 A.M.

The sedentary or moderately active portion of the population suffer



a five percent higher incidence than the working population.

Finally, it is his conclusion that coronary thrombosis is a complication of long-standing atherosclerosis, and that effort apparently does not precipitate it.¹

One vessel

Levine reminds us that at autopsy one single coronary vessel is involved with the remaining giving evidence of no pathological change whatever.⁶ Is it possible "that 40 years of torsion, of motion, of twisting, in that vessel because it was born with a little bit of excess turn or curve causes this vessel to act as a locus minoris resistentiae to the general factors there and not elsewhere?"⁷

It is Levine's great contribution in the treatment of these cases that he has shown that the output of the

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heart is 23 percent greater in the recumbent position than when the patient sits in a chair. Thus, the heart rests more if the patient sits in a chair with his feet down.

Atherosclerosis according to Kellner⁷ is the cause of coronary occlusion in the vast majority of the cases. This, according to the best view is a disease of lipid metabolism. The lipid, which comes from within the lumen of the vessel, permeates this vessel wall. Normally there is circulation of a considerable amount of protein across the vessel wall which is removed by way of the lymphatics and the vasa vasorum. Under some incompletely understood conditions not all the lipid passes through; some remains behind. Perhaps there is an excessive amount in the blood, or a large amount of unusual lipids, such as beta lipo-proteins of the Sf 10-150 particles of Gofman. In other instances damage of the vessel wall interferes with the normal removal mechanism, and lipid remains behind.

By what mechanisms does atherosclerosis cause occlusion of a coronary artery? Briefly, this may occur in three ways:

- (1) By a hemorrhage into the atherosclerotic plaque,
- (2) The atherosclerotic plaque itself produces narrowing and occlusion of the lumen,
- (3) Thrombosis of a vessel with an atherosclerotic plaque.

Thus, occlusion of a coronary

artery is a complication, a late complication of atherosclerosis.

Whereas formerly it was thought that coronary thrombosis and atherosclerosis were the inevitable consequences of aging, now the disease is thought to be one of lipid or lipo-protein metabolism according to Gutman.⁸ The atherosclerotic plaque is composed very largely of cholesterol in free and combined form. The largest proportion of cholesterol is synthesized in the body from a simple true carbon compound, namely acetate, acetic acid. Acetate is derived from food-stuffs, from carbohydrates, proteins and from fat, and particularly from fat. Every article of the diet is a potential precursor of cholesterol and therefore of atherosclerosis. But there is no method of dietary regulation or restriction that will completely obliterate all formation of cholesterol. Restriction of fat and total calories does seem to diminish the rate and quantity of cholesterol formation. This is a measure that all can undertake in the practical management of the disease.

Three tests

In those cases where disputed relationship exists between trauma and coronary heart disease Kapp² has established the following three tests in this regard.

- (1) Did trauma, physical effort or emotional strain, not compatible with usual occupation or habits, occur before the acute coronary

- heart disease?
- (2) Did cardiac symptoms (such as severe pain in the chest, shortness of breath, weakness, pallor appear immediately after the alleged injury or at least develop gradually and continuously within a few hours or days?
 - (3) Was the diagnosis of coronary heart disease corroborated by electrocardiographic evidence?

Kissane pointed out in 1940⁹ that severe muscle damage can occur to the heart without any apparent injury to the ribs or chest. In a more recent study¹⁰ he pointed out that more cases of traumatic heart disease are overlooked than diagnosed by mistake.

Some authorities believe that the "time" factor is the final test in these cases. Did the symptoms of cardiac disability appear immediately or soon after the injury or progress in a matter of a few days.¹¹ If the answer is yes, then causal relationship is probably established; especially in proof of aggravation of pre-existing heart conditions. Finally, it should be remembered that the more severe the injury to the chest the more likely is the heart affected.

Legal implications

In April, 1952, flood waters from the Mississippi River entered defendant's basement.¹² He had leased two gasoline driven pumps to expel the water but no measures were

taken to remove the exhaust fumes from the building which were eventually released in the basement. The plaintiff delivered an additional pump in the face of rapidly rising water; the general atmosphere was one of excitement and emergency. He attempted to get the new pump into operation but it developed mechanical difficulty. While still attempting to locate the mechanical difficulty, plaintiff became dizzy, felt a cramped feeling in his chest, became sick to his stomach and dropped to his knees. He did not lose consciousness and he stayed on the job. On his way home he was seized with a dizzy spell and a contraction in his chest. He was given oxygen. A week later he suffered a heart attack, was taken to the hospital and his ailment was diagnosed as myocardial infarction.

There was substantial expert testimony to show that the heart ailment was caused by carbon monoxide gas.

He who runs a machine is charged with notice that carbon monoxide gas is being discharged from such engine and ordinary care requires he take affirmative action for its expulsion. It was held in this case that plaintiff's heart condition was produced by carbon monoxide poisoning.

Anoxia is lack of oxygen to the heart muscle which, in this type of case, is the basic cause of coronary occlusion. Where the coronary artery is already diseased as by arterie-

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sclerosis, the oxygen flow is diminished. It does not take much more of a decrease in oxygen to precipitate an acute coronary occlusion in such cases.¹³

Where the insured died after a fall on the golf course due to rupture of the aorta it was held not to be accidental death so as to come within the double indemnity clause of the insurance policy.¹⁴

Levine points out that if after legal trauma the symptoms and disability increase in a plaintiff with a prior asymptomatic, non-disabling heart condition, then it is fair to assume aggravation.

Recovery was allowed for emotional excitement over traffic argument aggravating a prior arteriosclerotic heart disease.¹⁵ Here the theory is that legal trauma is a substantial factor in the aggravation of heart failure in that the already weakened heart tends to be overtaxed by the further exertion of new trauma.

Prior arteriosclerotic heart disease was aggravated by an automobile accident. The medical testimony was that the shock of collision was the proximate cause of the resulting heart failure. The 1936 verdict for \$10,000 was upheld.¹⁶

In a recent case in Connecticut where automobile trauma¹⁷ aggravated coronary heart disease, recovery was allowed.

Workmen's compensation

In workmen's compensation cases,

if one can prove: (a) an unusual medical result following usual exertion at work, or (b) an unusual medical result following unusual exertion at work, then medicolegal liability generally can be proven.¹⁸

In New York State, more than \$100 million is paid out annually in compensation to workmen.¹⁹ A substantial amount is concerned with payment of cases of coronary occlusion which occur during working hours and are allegedly caused directly by unusual effort or indirectly by the specific nature of the work.

The majority of the 64 million people employed in the United States is in the coronary age group. About 40 percent of the attacks of coronary thrombosis occur in people under fifty years of age. But 80 to 90 percent develop in those under sixty. Since increasing numbers who are older are working in industry, it is inevitable that many will die on the job.

Pre-existing disease

To prove aggravation of pre-existing heart disease which gives rise to disability or damage, one should show: (1) The type of heart disease plaintiff or deceased had. (2) Considering this type, the medical probabilities that such type of heart disease would be affected by the alleged legal trauma.

Since the possibility of rupture of aortic aneurysm exists, prior syphilitic heart disease is susceptible to aggravation. However, the fact

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1. Wallace, S. L.: Zoxazolamine (FLEXIN) in Low Back Disorders, to be published. 2. Settel, E.: FLEXIN in Geriatric Skeletal Muscle Spasm, Am. Pract. & Digest Treat., in press.

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that disease predisposed the heart to disability would, in Florida, bar recovery.²⁰ That state's statute on workmen's compensation provides that death due to aggravation of a venereal disease does not arise out of employment.

In Louisiana where no such statute exists, recovery on the same facts was allowed.²¹ In this state, where there was aggravation of prior hypertensive heart disease by trauma by a steel valve, recovery was allowed.²²

Non-physical trauma of legal origin may aggravate a prior heart condition. Recovery was allowed because of aggravation of prior heart ailment from gas erupting from defendant's lines.²³

Unusual accident

In McMurray's case²⁴ he had been employed by the registry of motor vehicles of the Massachusetts Commonwealth for about 22 years. At the time of the 51-year-old decedent's death, he was investigating an unusual fatal accident which involved the death of a Mrs. Plouff whom he knew. She was riding in a car with her son who was about twenty years old and an epileptic. The car left the highway, struck a cement abutment, and went over the cement dam into a river.

The woman drowned but the son was rescued and taken to a hospital. There was some question as to who was driving and whether death was result of suicide or accident.

The decedent interviewed the son



which proved to be depressing. Later he went to the home of a lady who was supposed to have known something of the circumstances. He was seated in a chair and after he was there five or six minutes he suffered an attack and died. The cause of death was coronary thrombosis. The decedent was disturbed on the day of his death because of the distressing interview. The investigation imposed upon him was a "nerve wracking job" of making the decision as to whether the deceased woman had committed suicide.

His physician had treated him for a heart condition for about a year and advised him to avoid any mental or physical stress. The doctor testified that in his opinion an emotional stress or strain brought about by the investigation he was making hastened or aggravated the pre-existing



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heart condition and caused death. An expert testified "that an emotional strain can precipitate a heart attack, just as a physical strain can, if it is a pretty profound strain." Thus, in this case, there was found a "personal injury" within the meaning and framework of the compensation act.

Where an employee²⁵ died from a heart attack suffered during a baseball game played by a team sponsored by an employer, compensation was allowed as a result of injury "arising out of and in course of employment" although the team was not entered in the main schedule and not part of employer's regular league.

Prior endocarditis aggravated by fall on a grate so as to produce death was allowed in a recovery in workmen's compensation. This was granted under the theory that prior "rheumatic heart disease" may be aggravated by trauma of legal origin.

Contributory negligence

In ascertaining whether a prior spontaneous heart condition was the sole or substantial cause of death or injury following an accident of legal origin, it is necessary to examine the past history.²⁶

- (1) Did he have a pre-existing heart condition?
- (2) What was the heart condition? Knowing the heart condition did it cause symptoms such as weakness or dizziness which would

predispose a person to disabling accidents?

- (3) Did the party know that he had a heart condition? Did he know its seriousness? Did he know that he was subject to weakness, fainting spells, shortness of breath which would predispose him to accidents?

Did the cardiac plaintiff exhibit "a lack of due care" where the substantial cause of the accident is a spontaneous cardiac incident? Contributory negligence is a good defense where the plaintiff had certain symptoms.

Dizziness may predispose an individual to spontaneous accidents.

The pain in coronary occlusion is variable. It may be so intense over the heart and may cause such weakness and a rapid feeble pulse that the individual is unable to co-ordinate his movements. Further, the diagnostic aids in recent coronary occlusion would put a patient on notice. Here the sedimentation rate is usually elevated as is the white blood count. The temperature may or may not be elevated. The transaminase test may be useful.

Where there is a functional narrowing of the coronary vessels as in the anginal syndrome there might well occur a disturbance of mental equilibrium. There may be marked anemia. At high altitudes there may be enough diminution of oxygen supply that the coronary blood supply is diminished. Inadequately ventilated areas may be important precipitating factors in angina.

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Cardiac arrhythmia with its irregular heart beat may give rise to symptoms. Likewise in heart block the heart may be slowed.

Other conditions in the above category would be: chronic constrictive

pericarditis; neurocirculatory asthenia; carotid sinus syncope; rheumatic heart disease; congenital heart disease; syphilitic heart disease; arteriosclerosis and hypotension or low blood pressure.

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Resident Roundtable



A Dilemma in Medical Education

With the rapid decline in the number of "service" patients in U. S. hospitals, the pattern of resident training is changing. Is the concept of the "private" patient becoming outmoded in hospitals approved for residency training?

MODERATOR: What do you consider to be the single most important problem in residency training?

Few service patients

DR. WALSH: Due to the gradual increase in personal income and prepayment medical and surgical insurance coverage, the number of true service cases available in hospitals is declining rapidly. Coupled with the increase in the number of approved residency programs, the result is that there are more and more residents trying to get their training with less and less service patients. Competition among residents for the small number of service cases is increasing. In surgery, a resident may wait three years before he gets any significant amount of operative experience beyond first assist—and even then, his chances can be few and far between.

DR. FISCHER: I agree. I have also met this problem. Yet, the insured patient is entitled to private care because he has paid premiums for this. He should get private attention.

DR. ELLER: While many surgeons accept patients on a flat

insurance plan fee, if the patients cannot afford the whole fee, they may be handled differently.

MODERATOR: In what way?

DR. ELLER: Patients through the hospital emergency room are often differentiated from those patients they bring from their own offices.

DR. WATKINS: With some surgeons it will differ. Some attendings assigned a hospital emergency patient as private cases will perform the procedure and closure right down to the final sutures. Others, even on their ordinary private cases where they receive their usual fee, will allow the resident surgeon to do some of the procedure and most of the time the closure. It's pretty much an individual thing with the private surgeon.

Viewpoint

MODERATOR: In other words, it is not the amount of the fee that decides, but rather the individual surgeon's viewpoint?

DR. FISCHER: Yes, but possibly there is a greater tendency to allow the resident more privileges if the patient is referred to him through the hospital.



This month's panel

MODERATOR: A graduate of a northeastern medical school, he took his internship at a university hospital and is completing his final year of a medical residency at a suburban voluntary hospital.

DR. WALSH: Graduated from a west coast medical school and took his internship and residency in surgery at a west coast university-connected hospital. He then served as a medical officer

MODERATOR: Now let's get another viewpoint.

DR. ELLER: I would like to comment on one other aspect of this complex problem, and that is the patient's awareness of who is doing the surgery when he comes in as a private patient. Whether or not we should tell the patient that the surgery will be shared, so to speak, as a teaching experience in furtherance of resident training, is a valid question. In my experience I have found that some surgeons give the entire case over to the surgical resident and, after the postoperative care, collect their fee without ever mentioning the part played by the resident during the procedure.

MODERATOR: Do you think this is proper?

DR. WATKINS: Is a placebo proper?

DR. FISCHER: Although resident training is certainly important, I still feel the patient should be aware that his surgery is to be done or was done by his private doctor with the assistance of the resident surgeon—but not, even if true—represent the resident as having done the full procedure.

MODERATOR: Dr. Walsh, may we have your opinion?

in the Navy and at present is completing his training in a surgical subspecialty at a large university hospital.

DR. WATKINS: After graduating from a western medical school, he served a four year residency in surgery in a Government hospital in Washington, D. C. He has been in practice for several years.

DR. FISCHER: A graduate of New York City medical college in 1949, interned and completed a three year residency in internal medicine at a voluntary teaching hospital in Brooklyn, N. Y. He has recently opened a private practice in his specialty.

DR. ELLER: After graduating from a midwestern medical school, he served an internship in a New York City municipal hospital followed by three years of psychiatric residency at a VA hospital in the east.

Surgical problem

DR. WALSH: Well, I think the problem is primarily a surgical problem. It's being solved fairly well medically. Perhaps the release of authority by the attending physician to the resident hasn't such a finality about it as on surgery cases. The private physician has the ultimate responsibility. If there is a difference of opinion between the private man and his residents, the private physician would have the decision to make. And too, in most medical cases, many can learn from the same case. But, as has often been said, only one person can cut.

MODERATOR: Do you mean that private cases are managed by residents in your hospital?

DR. WALSH: Yes. And I think to the benefit of everyone — particularly the patient. Many patients under the care of a single private physician, regardless of his talents, will find the physician unavailable at times. No private physician can remain at the hospital for extended periods of time. The resident must.

So, it's a give and take proposition. The private physician delegates authority for the care of the patient—and he receives the 24-hour services of the residents. I don't see where you can say this is other than to the advantage of the patient. Even in dollars and cents he is getting more value, rather than less.

MODERATOR: Dr. Watkins, you are in a surgical field, let's hear your opinion.

DR. WATKINS: First, as to whether being on service, even though the patient has a surgical coverage plan, is good or bad for the patient. In many ways a service patient gets better care; he usually has several people watching and taking care of him from the attending rank down, and has the value of several consultations which, in many ways, is very good. Most hospitals work hard to make sure their service cases get excellent care. In some ways it's bad for patients in this respect: the patient is in a hospital on insurance coverage which is good for so many days at the full rate. In many hospitals the work-up on service cases is a little longer, more delayed

Patients are needed for teaching purposes if Medicine is to meet its responsibility in providing advanced medical and surgical training. But what of the rights of the private patient? Ethical considerations involving the private physician's responsibility to his patient, the hospital and the resident and intern staff make this problem difficult to solve. One thing appears certain, according to the roundtable panel; the accepted pattern of a gradual increase in authority for patient care and management by residents is in serious danger of collapse—especially in surgery, unless all physicians face the problem honestly and immediately.

and the time of getting on the operative schedule is often delayed. Also, if any complications occur and it happens to be an unusual case, this patient suffers from the fact that he will end up with a hospital bill at the end of his time before he goes home. In that respect it's bad.

MODERATOR: And the fee?

Responsibility

DR. FISCHER: This is a sore point with me because, being rather young in private practice, it's a little frustrating to see patients go through as service patients when they have surgical coverage. Also, in certain hospitals, the fee goes into a fund where it just disappears. I feel that these people have paid a premium to an insurance company, and the insurance company has based this premium on the fact that they must pay for whatever services are rendered. Therefore, in these instances, I think the private man assigned on service, or who gets the case privately, should get the fee. In one hospital which has about the fairest system, the patient may remain on service under the management of the resident staff. Yet the attending man who is on service and scrubbed on the case becomes entitled to the fee.

MODERATOR: You mean he is still responsible?

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DR. FISCHER: Yes, the actual responsibility of service cases is always that of the chief, and the attending man on service, responsible both to the patient and to the hospital administration.

DR. ELLER: This problem is coming more and more to a head. Some hospitals have established a policy. For instance, I can think of the University of Chicago Clinics where every case is a service case in that the patients, even though they pay a full private rate, are told that they will be operated on and treated by the house staff under the supervision of the full-time men. If patients don't like it, they needn't go there. The University of Chicago Clinics can do this because of a national reputation which attracts patients as Mayo and Ochsner and Lahey attract patients.

DR. FISCHER: In other hospitals the same thing is done unofficially.

MODERATOR: What is the reaction when the patient learns that a resident did the procedure?



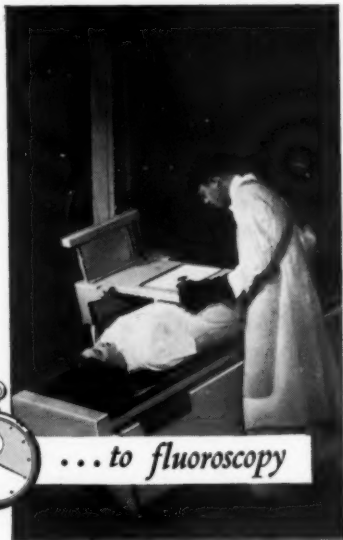
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DR. WATKINS: I think the first reaction is against the private physician. It is perfectly understandable. But, it can be very easily overcome. Most often and with rare exceptions the patient will understand, if someone will only take a minimum of five minutes to explain that the resident did not do the procedure all alone in an operating room while the private physician was on the golf course. The private physician was standing there, scrubbed. The operation was closely supervised by the expert. Had any unforeseen event occurred that the resident was not capable of handling, the private physician was right there to handle it. So, I think, it is the rare patient who will not understand that he was not cheated. In fact he got the benefit of two highly-trained surgeons.

DR. ELLER: I often wonder how I would feel if my wife were going to have a Caesarian section. I choose the obstetrician carefully, by reputation, after I have looked him up and checked. How would I feel if my wife was taken care of by a resident? I think I would be angry, disappointed, and extremely disturbed. I would feel cheated by a colleague who had displayed a gross lack of integrity. My wife might just as well have been a service case.

DR. FISCHER: We know, as doctors, that there are a lot of patients who would be much better off having interns taking care of them than the doctors they have chosen to take care of them. We know that there are many doctors who are not qualified in certain fields. Yet, it is up to the patient to judge, to decide that this doctor should or should not work on him. I am talking about the so-called free choice of the patient for his physician. Whether the physician is good or bad, with certain arbitrary limitations, is beside the point.

MODERATOR: Why?

DR. FISCHER: A patient has paid a Blue Shield premium. A patient belongs to a certain union. These are not service cases. They are private cases; they expect private care. And I think it's evading the issue to say that residents will give them better care. That's not the point. The point is, are we cheating them or, may I use the word, are we doing ghost surgery by allowing residents to take over the primary responsibility, in effect making them service cases?

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DR. WATKINS: Bad or good is not the basic argument. I agree with Dr. Fischer in the hypothetical situation proposed by Dr. Eller as far as his wife was concerned. Yet, I have often thought that if I were desperately ill with a medical problem, I would go in on a ward and there would be no question about it at all. I would carefully choose the hospital. I would want to know how the ward service was run. But I would go on a ward notwithstanding the fact that I have all the medical talent at my disposal at no fee at all.

MODERATOR: Of course, you talk as a physician now. What of the average layman?

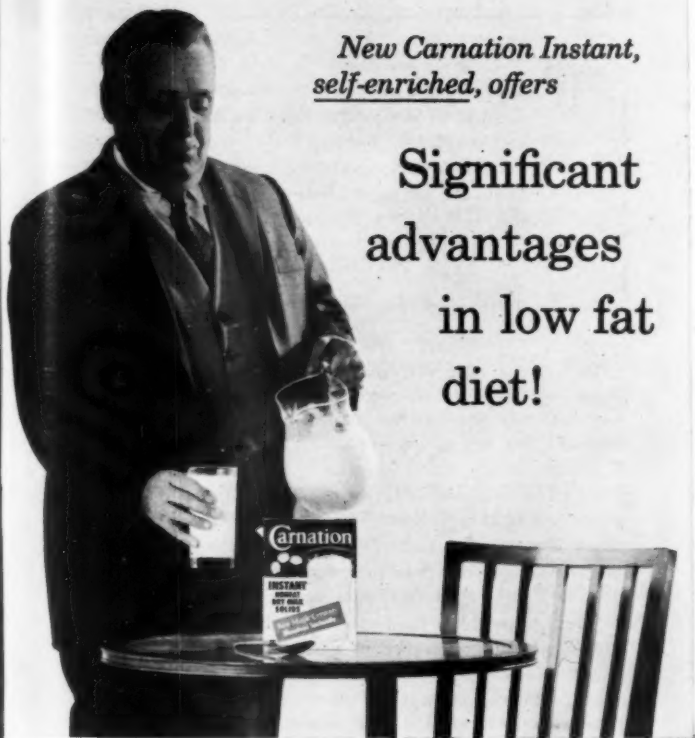
DR. FISCHER: True, he wouldn't know anything about the ward, or how it was run. He is at the mercy of the administration and the staff . . . even though I'll agree most are good.

DR. WATKINS: You've answered the question, then. The fact is that most of these hospitals are well run. Therefore, I have no doubts about going on ward in most any hospital having a resident staff.



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Actual names of those participating in the Resident Roundtable are not used. You are invited to add your comments to these Roundtables through your Letters to the Editor.

MODERATOR: Yet this problem is getting more and more acute, particularly in surgical specialties, because there are less and less true service cases. How can this problem be solved?

DR. WATKINS: I think it's a question of orienting the private physicians to this problem so that they will make more effort to use their private cases for teaching purposes. This doesn't mean that in every case the resident must do the procedure. But certainly by carefully demonstrating what is being done, why it is being done, the importance of the pre-operative evaluation, and the importance of postoperative care, especially if complications occur, the attending surgeon can give a resident a lot of experience on any case. I don't think anyone can or should tell a private man that he must give private work to the resident. That is absolutely not right. It must be left to the private physician to decide. But if he insists on a "resident-hands-off" policy, he is violating the fundamental obligation of all physicians to teach.

DR. ELLER: The problem of getting the resident to perform a decent number of cases is being met through many specialties by increasing the length of required service for qualification. But this creates another problem, or rather makes an existing problem more difficult. It keeps a man in training for a longer period of time, delays his getting into private practice and supporting his family. Least comforting to the resident not getting much independent work is the fact that when he does

finally get into a private practice he can continue to train by getting into a hospital where a fair amount of service work is done through which he will add to his training.

DR. WALSH: That isn't the answer. In most of your smaller hospitals, new suburban hospitals, service cases are but a fraction of the total patient load.

DR. FISCHER: That's true. They have about 15 percent service cases at . . . (X) . . . hospital because of the location and the type of people in the neighborhood.

DR. WALSH: Going back a minute, I had an experience a few days ago. I brought a woman into the emergency room at . . . (X) . . . hospital with a Colles' fracture. Now this woman informed me that she could not pay for private care. I had asked her whether or not she wanted to go on service or have a private doctor. She told me that she could not afford private care. So I took her over in my car to the emergency room and informed the nurse that I would like this woman to go on service with her Colles' fracture. It so happened that a young orthopedic surgeon was standing by in the emergency room. This orthopedic surgeon got the case. I don't think this was fair to the patient, in view of the fact she had told me she could not afford private care.

DR. WATKINS: You do find this in many small hospitals. Younger men will be there to meet cases in Emergency. We often found younger men hanging around the emergency room ready to pick up cases. I don't think this is fair to the patient.

MODERATOR: Has anybody thought of the possibility that there may be just too many hospitals approved for resident training?

Program approval

DR. FISCHER: Too many hospitals?

MODERATOR: Yes. Too many not having the case load or supervised training for the resident staff.

DR. ELLER: My opinion is that there are just too many resi-



dents. I think we are turning out too many specialists, that a specialist is no specialist anymore. I think that a hospital should not be approved for residency just because they have a couple of decent men on the staff. I think a hospital should be approved for residency if they can justifiably provide a full program for residents. And by program I don't mean a need for a night man to start I.V.'s and do some emergency work for the attendings. I mean an advanced, active program backed by proper facilities. I think a tighter rein on approval would make for better residencies wherever approved. Also, we would have an easier time of it for the fellows who do finish their residency program. I think they are turning out too many pediatricians, too many internists, and too many surgeons without a complete training experience. I would say we should stop approving hospitals just on name only.

DR. WALSH: I disagree wholeheartedly. I think the most important effect of your suggestion, if carried to its fullest extent, would be to the detriment of the public. I think everybody is aware of the fact that there are hospitals to which

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private physicians refuse to send cases simply and solely because they do not have residents that are capable. In effect, your idea would limit hospitals to given areas; you'll practically confine hospitals to large metropolitan centers. I am sure we have all had patients who need care, but who do not need a great diagnostic work-up requiring a medical center with university affiliation. If you disapprove of the small hospital residency, you will invite unqualified men being on the house staff who are not capable of handling problems as they arise.

DR. WATKINS: I think that the problem is a very difficult one and I certainly don't think we are going to solve it. Certainly not this evening. But the problem is not solved by making a dollars and cents, fair or unfair situation out of something which cannot be resolved that way. The situation involves the care of the population. And our people, I think, are benefited by having more hospitals qualified for residencies with qualified people on their house staffs. Your idea, in my opinion, would limit this residency training to big hospital centers, ignoring the needs of the public.

DR. ELLER: I agree that outlying areas must have hospitals. And the hospitals should have some form of residency program. Since the number of service cases will be at a minimum, to attract residents, there must be training opportunities on some of the private cases. Thus, if the private physician wants residents to work up these patients, for assistance at the operating table, for 24-hour care, he must allow these residents to do a part of his private work. If this does not happen, I believe surgical residencies will collapse for lack of opportunity.

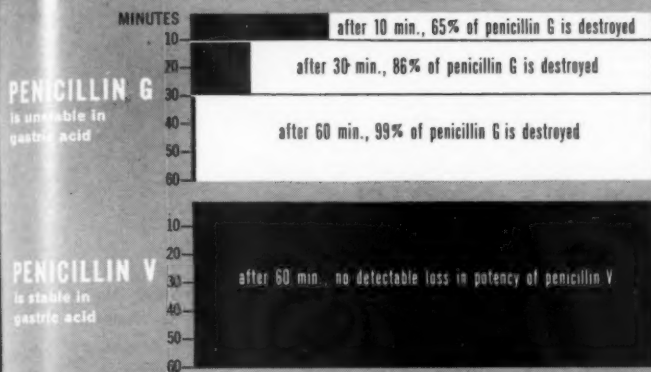
DR. FISCHER: I heartily second that opinion.

MODERATOR: All agreed?

DR. WATKINS: Yes. And furthermore, it works. I have seen it work in a number of places; everybody is quite happy with the situation, residents, private physicians, and patients.

MODERATOR: Let's close here, particularly since we've just sounded a positive note.

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March 1957, Vol. 3, No. 3

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Equipping an Office For General Practice

The general practice of medicine combines elements of nearly all specialties. Usually, the individual generalist will emphasize one or another of the special areas of medicine, depending upon his inclination and training.

In most cases, the general practice is concerned with all members of the family, young and old alike. And when considering equipment for his office of "family medicine," the physician must remember that his practice may include pediatrics, geriatrics, internal medicine, preventive medicine, public health, rehabilitation, psychiatry, and to varying degrees, obstetrics and surgery.

Equipment should be sufficient to perform the technical procedures of these fields to the limit of his training and qualification, and office planning should also take into account that patients will range from the newborn to the senile.

Much of the equipment needs will depend upon the proximity of hospitals and diagnostic centers, and the GP's relationship with consultants. Since this article is based on

a survey made of general practitioners from many different sections of the country, we will describe an office suitable to average needs.

Waiting room

In planning your waiting room, keep in mind that your practice is unique in that your offices will accommodate both children and adults. Your waiting room must be designed to please both. Another tip from the physicians surveyed: Keep your waiting room soothing, functional... not luxurious.

Carpeting is not necessary. Consider a rainy day, a dozen children with muddy feet, and the impracticability of carpeting is obvious. Also, carpets aren't inexpensive—to buy or to keep clean.

A colorful, composition tile or linoleum in the waiting room looks



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fine, stands abuse, and is relatively easy to maintain, according to most physicians. And too, if desired, there is a wide variety of nursery and circus designs from which to choose, and at prices which won't break your limited budget. The cost is perhaps a third of that for a carpet. An average room can be covered with an attractive tile or linoleum for \$75 to \$100.

A couple of non-skid throw rugs will add a pleasant accent to the room at only a small additional expense.

Chairs

Two types of chairs can be used to advantage: chairs for the parents and smaller chairs for the children. Adult chairs should be comfortable but strong. While intended for the parents, they will frequently be occupied by the mother and her offspring—at the same time.

Safety, of course, is an important factor. Sturdy chairs which won't tip over easily are important. They should have smooth arms and legs,

without projecting decorations.

Plastic-covered wooden chairs are a good choice. These are comfortable, come in attractive colors and are washable. They can be purchased as separate units, with or without arms, or in units of two or three matching pieces to make a functional couch arrangement. Chairs of this type cost from \$20 to \$35 each.

Since the average waiting room of the physicians consulted had chairs for six adults, you should figure on about \$150-200 for adult chairs.

Children's chairs are smaller and less expensive. You can get them as rocking chairs, simple folding stools, or benches. Prices run from \$8 to \$15. Though many general practitioners agree you should have as many juvenile chairs in the waiting room as there are chairs for adults, most didn't have this many.

Magazines

The family physician's office will have magazines for parents and magazines for children. By placing

What equipment is needed by the generalist who is completing his residency and preparing to open an office?

RESIDENT PHYSICIAN recently put this question before a number of practicing G.P.s. Cautioned to keep in mind that cost was an important factor for the new man starting out, many respondents described some of the costly mistakes they had made when equipping their own offices.

Based on their experiences, this article is presented as a general guide for those residents who will soon be equipping their own offices for general practice.

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Reference: A Rubber Pelvic Laparotomy Pad—John W. Walsh, M.D. *Obstetrics and Gynecology*, Vol. 6, No. 2, August, 1955.

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- The pad effectively retains bowel and omentum above level of the true pelvis, and permits a maximum view of the pelvic organs.
- Possibility of bowel trauma is reduced appreciably.
- Adhesions and bowel distention are minimized.
- Easy to clean—can be sterilized over and over.
- Use of pad reduces need for repeated sponging, as free suction of blood is possible.

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adult magazines on wall racks above the children's reach, many physicians get better mileage from these periodicals. Wall racks can be built by you or a local carpenter for less than \$25. Manufactured racks are priced in the neighborhood of \$10 to \$40, depending on the quality.

Children's magazines should be placed on a low level so the child won't have to annoy his parents each time he wants another magazine. Locate them in play boxes along a wall or on sturdy magazine tables. Simple tables can be purchased for \$20 to \$25 each. Unpainted tables are quite a bit cheaper and can be painted bright colors by you or your wife.

Lamps

Floor lamps and children don't get along. Table lamps are easily toppled. A good suggestion is to have most of the lighting from ceiling or wall fixtures. These lights can be attractive, cheap, give good reading light, and more important, they can't be tipped or broken easily. Prices vary considerably. But good-looking lamps for wall use can be purchased for \$6 to \$15.

If you must have table lamps, keep them safe and simple. There should be no glass to break and cause injury to your patients. Ornate lamp shades will quickly be damaged, adding nothing to the room except disorder and extra dust to bother allergic patients.

Play area

Most physicians recommend a special play area for children in the waiting room. This can be arranged so as to keep children from annoying adults, and at the same time give the children some occupation while they are waiting. A corner of the main waiting room equipped with a play box and toys is adequate. A small room off the main waiting room is better.

Expense can be kept down by the purchase of a children's play box for \$10-\$20 and another \$10 for a few toys.

Toys, of course, should be purchased with safety in mind. Riding toys that may collapse and injure the child should be avoided. Toys having many small parts which can be swallowed or get under a child's feet should also be avoided. The best and cheapest toys are washable-plastic, stuffed animals; reading games and drawing books for children. Crayons can be bought which readily wash from walls.

Consultation room

The consultation room is, for the general practitioner as for most specialists, perhaps the most important room in his office. Here the history is taken. Here the doctor and the patient first meet. And the first interview is often lengthy. So this room should be extra nice. Here, the consensus of opinion was that a carpet is an important addition, but not an absolute necessity.



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THE BIG NEWS in human fertility in mid-century America has been the 1940-1955 baby boom, which in dramatic significance has rivaled the hydrogen bomb explosions . . . "1 More young wives are having babies and planning their families big. The rate for third and fourth births has almost doubled. Five-, six- and seven-child families are on the increase."²

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References: 1. Dinkel, R. M.: *Eugenics Quart.* 3:22 (Mar.) 1956. 2. Grove, R. D.: *Am. J. Pub. Health* 46:592 (May) 1956. 3. Novak, E., and Novak, E. R.: *Textbook of Gynecology*, Baltimore, The Williams & Wilkins Company, 1956. 4. Tietze, C.: *Proc. 3rd Internat. Conf. Planned Parenthood*, 1953.

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A desk, of course, is needed. The price of the desk will depend upon the style, size, and the material. In general, the average price paid for a desk, according to our survey, was \$150. But, this figure varied from \$50 all the way to \$500. One point: the desk should be large enough, contain enough drawer space for some of the hundreds of items the physician will want at his fingertips.

Comfort

Even more important perhaps, than a desk, are the chairs for patients and for the physician. Your chair should be picked primarily for your comfort. It will be your best friend and will be near you for many years. Try before you buy. Good chairs can be expensive. According to physicians, the chair they thought best, in some cases, cost as much as \$250.

The patient's chair should also be chosen for comfort, but for the comfort of the *average* individual. Our respondents indicated an average cost of \$75.

One other chair may be necessary for the friend or relative of the patient. This can be armless, but probably should be covered with the same material as the patient's chair.

In choosing a desk lamp, care should be given that the light is reflected downwards, not into the patient's eyes. A good desk lamp can cost anywhere from \$25 to \$50.

A bookcase may be a good idea

in the consultation room. A bookcase is colorful, impressive, adds to the patient's confidence in the doctor. Bookcases can be custom built to fit odd-sized wall areas. Prices vary from \$40 to \$150.

A cabinet may be useful in your consultation room if there is space enough. Prices run in the neighborhood of \$50 to \$75.

Examining room

Most general practitioners queried bought examining room equipment in sets of four or five pieces; that is, an examining table, a treatment cabinet, a treatment stand, a stool, and a sanitary can. Prices vary according to the type of equipment purchased, the materials, and the manufacturer. In general, a set bought new can cost as little as \$500, or as much as \$1,000 or more.

Table

A good examining table can be purchased new for from \$250 to \$800. The difference in price depends upon the type of materials, decorations, and extra features provided. Some general practitioners at the beginning, purchase an examining table second hand. A second hand examining table in good condition usually can be purchased for under \$100 and an adequate refinishing can be done for \$25 to \$30.

Cabinet, stand

A treatment cabinet and a treatment stand may not be necessary

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right away. Perhaps money could be saved by using wall shelves or built in cabinets to serve the same purpose. In either case, most general practitioners reported they purchased the treatment stand for under \$75 and the treatment cabinet for a similar price.

Examining lamps vary from as little as \$15 to as much as \$260 and more; the difference depending upon the source of light, type of illumination, and size.

A small sturdy stool for mounting the examining table should be available. It should cost no more than \$15 to \$20, but make sure it's as slip-proof as possible.

Second table

A second examining table for children is advisable, according to many G.P.s. A commercial table can be purchased in a medical supply house for prices from \$250 to \$450, new.

The more elaborate and expensive tables have built-in scales and measuring devices. The beginning general practitioner might better do without these deluxe models if budget is squeezed. A kitchen supply house will build you a table to your directions and specifications as to height and width for about \$150. It can be brush-painted or sprayed in any desired color. The mat will be extra.

X-ray, fluoroscope

Whether or not you need x-ray

equipment or a fluoroscope immediately is a debatable point. Twenty percent of the physicians queried felt an x-ray machine was necessary even in the *beginning* practice. However, nearly 80% felt that a fluoroscope is required. A used fluoroscope can be bought for from \$550 to \$800. Of course, as with any used equipment, price is not as important as the good reputation of the seller. A guarantee on the tube is a minimum requirement.

New fluoroscopes are available at prices from \$1200 up.

A new x-ray machine will cost anywhere from \$1,200 to \$12,000. The wide price range indicates the many variations in size and ampere capacity of x-ray equipment. The prices of 100 MA machines start at \$3,000.

If your future office is to be separated from your home, plan on having a refrigerator for your office. The type is not as important as the size. In general the price of a new refrigerator will run from \$100 to \$250 depending on the style and volume of storage provided. A refrigerator should be small enough so it won't dominate a room, but at the same time it should be of sufficient capacity to store your requirements of antibiotics and medicinals.

EKG

The electrocardiograph is "an important item of equipment" needed by the physician, according to 60% of those polled. Most felt

multi-position examining table with stationary base



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it should be purchased new. "This will be one of your best friends in practice," and, "it is one thing that will pay for itself in the first year or so," are typical comments on the EKG.

Prices of an electrocardiograph vary according to design and type. About \$600 seems to be an average price.

BMR

On the question of basal metabolism equipment, general practitioners polled were split. About half felt BMR equipment was necessary at the beginning. The other 50% stated that they thought it could be postponed for at least a year or two.

In general, if the additional expense is not too great a burden, the equipment should be purchased at the beginning, since it is an important aid in diagnosis. The added income would probably make the initial expense worthwhile. Prices range from \$400 to \$700.

Sterilizer

A diathermy machine was considered an immediate necessity by 40% of the physicians surveyed—however, here again, expense was a factor. A sterilizer or autoclave is a must, according to 100% of the survey group. The majority felt it should be bought new, since the price of a sterilizer (cast-bronze boiler, chrome exterior: \$60 to \$100 depending on the size) is relatively small compared to the possibility of

faulty electrical circuits in a used machine. Many recommended autoclaves; prices from \$220 to \$500, new.

A scale should be purchased; price: about \$60. An infant's scale will also be needed and will cost about \$40.

Instruments

Other special instruments needed in the beginning practice of the general practitioner include ophthalmoscope, proctoscope, and a sigmoidoscope.

Most general men have already purchased an ophthalmoscope at some time during their career. However, if a new one is desired, it can be purchased for about \$50. About 70% of the group thought a proctoscope and sigmoidoscope necessary at the beginning.

Many physicians use electric cautery in their office. Such an apparatus may vary in price from \$90 to \$350.

Dressing room, lavatory

Since these rooms are used frequently, special care should be taken in furnishing them (and keeping them immaculate at all times).

The dressing room should be separated from the lavatory and adjacent to the examining room. It should be welllighted, have a chair and a mirror. Hangers or hooks should be supplied for clothing and gowns. The door should be able to be locked from within. The total cost

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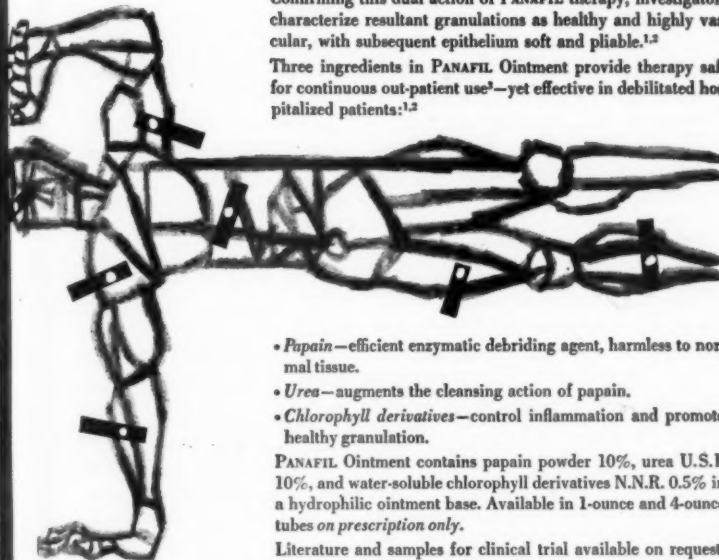
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PANAFIL Ointment contains papain powder 10%, urea U.S.P. 10%, and water-soluble chlorophyll derivatives N.N.R. 0.5% in a hydrophilic ointment base. Available in 1-ounce and 4-ounce tubes on prescription only.

Literature and samples for clinical trial available on request.

- (1) Miller, E. W.: New York State J. Med. 56:1446, 1956.
(2) Morrison, J. E., and Casali, J. L.: Am. J. Surg., to be published. (3) Carnes, A. L., and Barnard, R. D.: Angiology, in press.

PANAFIL FOR IMPROVED ENZYMATIC THERAPY

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of dressing room equipment is usually less than \$75.

The lavatory, aside from being readily available to both the waiting room and the examining room, should contain a wash bowl, stool, a mirror, shelf, waste basket, soap and towels. Your nurse will have access to sanitary items and will make this known to patients.

Other rooms

In many offices there is an extra room, a "utility room." It may consist of a small laboratory, a place to clean and sterilize instruments and gloves, perhaps a small table where the patient can receive diatherm therapy. A simple, rigid table where patients can receive ultrasonic and diatherm therapy will cost as little as \$35 to \$50.

Laboratory equipment

For the beginning practitioner, in order to cut down expense, it would probably be wise to accumulate laboratory equipment gradually instead of trying to get everything immediately. You should, of course, have equipment sufficient for doing complete blood count, urinalysis, and sedimentation rate. The cost is small when compared with the income derived. A used microscope can be purchased from \$175 to \$250. New microscopes run from \$325 to \$550.

Other equipment needed for these tests can be purchased for no more than \$65 or \$75.

A centrifuge will also be neces-

sary. Be sure it has sufficient speed to do an accurate hematocrit since hematocrits and urines will constitute your primary need for a centrifuge. Cost will be about \$50.

Photoelectric colorimeters and other equipment to do blood sugars and other detailed blood studies are very useful and can greatly increase income for the beginning practice. Thirty percent of the survey group stated that they had such equipment when opening a practice.

Drugs

According to our survey, 50% stated that the initial stock of medicinals on hand for office use (not dispensing) cost less than \$50. About 30% stated that their outlay was \$100, while only 20% stated that they spent more than this sum. In general, it should be remembered that the only drugs needed immediately are emergency items, such items as antibiotics, heart preparations, stimulants, etc. Other items can be purchased as one goes along. A good rule here is to start slowly and build your drug supply selectively. (However, deterioration is not a problem since most dated items are returnable.)

Price

The editors have attempted to give an overall view of the cost of outfitting the beginning office in general practice. Many items are omitted. Many offices can be (and are) much more elaborately equip-

ped. Also, special consideration was given to price. In modern day merchandising, credit terms can be made so attractive to the young physician that in many cases it may be wiser to purchase an item now, on credit, rather than to defer it.

Approximate cost

We asked each member of the survey group to give an approximate figure for the cost of outfitting his original office. The figure was to be complete, including any items such as typewriters, nurse's desk, nurse's chair, filing cabinet, etc., some of which you may be able to do without.

Some 20% of our group outfitted their offices for under \$3,000. More than half spent \$3,000 to \$5,000 on their initial office equipment. Twenty percent stated that their offices cost between \$5,000 and \$6,000, and 5% reported total cost of equipment exceeded \$6,000.

Remember, prices have increased since physicians surveyed (Spring, 1956) entered practice. Therefore, a rough estimate would indicate that an office for the general practitioner can be equipped for under \$5,000; one or two items such as x-ray equipment, fluoroscope and diathermy account for more than half this figure.

Physician Philosopher

The Physician who is at the same time a Philosopher is like the gods. There is not a great difference between medicine and philosophy, because all the qualities of a good philosopher should also be found in the physician: altruism, zeal, modesty, a dignified appearance, seriousness, tranquil judgment, serenity, decision, purity of life, the habit of brevity, knowledge of what is useful and necessary in life, reprobation of evil things, a mind free from suspicions, devotion to the divinity.

HIPPOCRATES

WASHINGTON REPORT

Army

Navy

Air Force

Veterans Administration

Public Health Service

Army

New residencies . . . The Army Medical Service has recently established two new residency training programs—one in general practice, the other in preventive medicine.

The residency in general practice is given at the U. S. Army Hospital, Fort Knox, and is a two-year program consisting of one year of training in medicine and the medical specialties, including four months of training in pediatrics. The second

year is devoted to training in surgery and the surgical specialties, including four months in obstetrics and gynecology. The general practice residency is approved by the Council on Medical Education and Hospitals of the AMA.

Reserve Medical Corps as well as Regular Army Medical Corps officers are eligible to apply for this residency.

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ground of concentration and leadership in the field of preventive medicine, the Army Medical Service has established a residency designed to provide Medical Corps officers with broad training in both the military and civilian aspects of preventive medicine and to give them the necessary base for eventual board certification.

This residency training program is available only to Regular Army Medical Corps officers.

It consists of one year's training in the Military Preventive Medicine Course conducted at the Walter Reed Army Institute of Research, Washington, D. C., or a comparable course in public health at a recognized civilian college or university. Further training is provided by a year spent with a state public health department followed by a year at a large Army post or station working directly under the preventive medicine officer of the post or station. This year also includes time spent with the preventive medicine officer of an Army headquarters in order to give residents the broadest possible picture of Army preventive medicine activities.

Twenty-four programs . . .

Commencing July 1, 1957, therefore, the Army Medical Service will be conducting a total of 24 residency training programs. Interns and other young physicians may make application for Army residency training and appointment in the Regular Army.

In the event spaces in the specialty requested are not available in Army hospitals on one of the next three starting dates after receipt of application, opportunity will be offered to obtain residency training in a Veterans Administration hospital, Gorgas Hospital, Ancon, Canal Zone, or any other civilian hospital approved by the Council on Medical Education and Hospitals.

Physicians selected for residency training are required to attend the Company Officer course at the Army Medical Service School, Fort Sam Houston, Texas, prior to the beginning of such training. Those who have had six months' duty as a Medical Corps officer in a tactical unit are, however, excused from attending this course.

Individuals participating in the civilian residency program are required to serve on active duty for two years for the first year of training received and one year for each subsequent year.

Applications for Army sponsored residency training in civilian hospitals, other than as outlined above, will be approved only after the applicant has (1) completed his obligated military service; (2) completed one year of residency in his specialty and (3) received an appointment in an approved civilian hospital to continue training.

Those selected will be commissioned in the Regular Army and given not more than two years training under Army sponsorship except

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in certain specialties where a longer period of training is required for board certification. These will be sponsored for the period of time necessary to establish board eligibil-

ity. (Further information concerning Army professional training programs may be obtained by writing to The Surgeon General, U. S. Army, Washington 25, D. C.)

Navy

Active duty billets . . . Medical Department officers in certain grades and categories may obtain tours of extended duty with active duty agreements under the revised voluntary recall program. The program (revised by BuPers Instruction 1331.4A) provides for the automatic issuance of Active Duty Agreements for terms of two to five years to all officers voluntarily recalled to active duty.

A recent amendment to the Armed Forces Reserve Act provides that, after completion of five years' continuous active service, a Reserve officer becomes eligible to receive lump-sum readjustment pay in the amount of one-half of one month's pay for each year of active service performed—if the officer is involuntarily released to inactive duty.

Applications for active duty are desired from officers in the following grades and categories:

Medical and Dental Corps (2105 & 2205)—all grades. Criteria for re-

call to active duty will be based on relative age, professional qualifications and current service needs.

Medical Service Corps (2305) — grades up to and including lieutenants with date of rank of 1 May 1952, whose specialties are entomology, parasitology, public health (sanitation), physical therapy, occupational therapy, and dietetics.

Applications for extended active duty should be submitted in letter form, addressed to the Chief of Naval Personnel (Attn: Pers B115) and forwarded via the respective district commandant or the Chief of Naval Air Reserve Training, as appropriate. The letter should indicate the date available for active duty and the amount of advance notification desired. Normal processing time for applications is one month. Preference for type and location of duty may also be included and will be given consideration.

Social security . . The Service-

men's and Veterans' Survivor Benefits Act provides wage credits for active military service toward Social Security benefits for all military personnel on active duty or active duty for training on or after 1 Jan. 1957.

Therefore, all Naval Reservists who report for active duty or for training on or after 1 January must have a Social Security card in their possession so that wage credits and deductions may be credited to their accounts.

If you have never had a Social Security Account number card—or if your card has been lost or destroyed—you should apply for a new or duplicate card at your local Social Security Administration Office.

If you are a member of a drilling unit—whether pay or nonpay—you should have the Social Security account number entered in your official personnel records.

Correspondence courses . . .

Two correspondence courses entitled: Manual of the Medical Department, Part I, NavPers 10708-1 (Revised 1957); and Manual of the Medical Department, Part II, NavPers 10709-1 (Revised 1957), are available to eligible Regular and Reserve officer and enlisted personnel of the Medical Department.

Designed to enable Medical Department personnel to familiarize themselves with the functions of administration, organization, and management of facilities exercised by the Bureau of Medicine and Sur-

gery, completion of these courses will enable the enrollee to acquire essential knowledge of the significant functions of the Medical Department in its relation to the Naval Establishment ashore and afloat.

Because of the extent of the material, it has been divided into TWO parts, *each administered and credited as a complete course in itself*. The TWO courses are described here together because they deal with different aspects of the same subject.

MANUAL OF THE MEDICAL DEPARTMENT — PART I, NAVPERS 10708-1 (Revised 1957). This course includes 10 objective question type assignments and examinations. Eligible Naval Reserve enrollees satisfactorily completing the course receive 24 promotion points, and the same number of non-disability retirement points. Naval Reserve personnel who previously completed course NavPers 10708 *will not* receive additional credit for completing this revised course.

MANUAL OF THE MEDICAL DEPARTMENT — PART II, NavPers 10709-1 (Revised 1957). Eight objective question type assignments make up the course. Upon satisfactory completion, eligible Naval Reserve enrollees are credited with 18 promotion points and 18 non-disability retirement points. Naval Reserve personnel who previously completed course NavPers 10709 *will not* receive additional credit for completing this revised course.

Public Health Service

Traineeships . . . Title I of the Health Amendments Act of 1956 (Section 306 Public Health Service Act) authorizes the Public Health Service to establish a program of traineeships for graduate or specialized public health training for physicians and others whose professional skills are required in modern public health practice.

The primary objective of this program is to bring new people into the field of public health through providing post-graduate training opportunities for men and women *who have completed their basic professional education*.

The training program is designed to supplement, and not to replace or reduce, the public health training activities currently being sponsored by state and local governments.

Requirements. Applicants must be citizens of the United States or have filed a Declaration of Intent. In addition, applicants desiring post-doctoral training must have a doctoral degree from an accredited college or university.

- A resident may select the educational institution of his choice which offers a nationally recognized graduate or specialized public health training program in his professional field.

- It is the responsibility of the individual to make all the necessary arrangements with the training institution. This means that an individual desiring a public health traineeship must be found acceptable for training by the institution before his application can be considered by the Public Health Service.

- Preference will be given to qualified individuals who have had no more than two years' experience in public health work, who have had less than one year of graduate or specialized public health training and who are under 35 years of age (only under exceptional circumstances will a traineeship be awarded to a candidate over 45). In addition, consideration is given to the following: geographical distribution; replies received from references; candidate's plans for using the training provided; proposed training program; and shortages of trained personnel in the candidate's field.

Stipends. The academic degree held by the individual determines the traineeship stipend level. Regular stipend is \$4,800 for a post-doctoral candidate. The annual (12 months) amount is prorated and paid on the basis of one-twelfth for



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March 1957, Vol. 3, No. 3

159

each full month of training.

The Public Health Service will give consideration to approving a larger stipend in cases of unusual need and on the basis of justification submitted by the applicant.

Allowances. An additional \$360 for each legal dependent (as defined for Federal income tax purposes) is allowed for a 12-month period, to be paid in monthly installments over the period of actual training. Stipends are not affected by a change of dependency status during the award period.

Transportation at the rate of six cents per mile as computed by standard mileage charts is allowed to trainees between their present station and the training institution. No allowance is made for return travel, travel of dependents, or shipping charges for personal effects or household goods. The actual cost of tuition and fees is provided according to standard charges of the school.

The financial level of award is the same whether awarded by a training institution or by the Public Health Service.

Terms. Traineeships are awarded for a period not to exceed twelve months. Support for training will, in all cases, depend upon the availability of funds appropriated by the Congress for this program. The Surgeon General may terminate an appointment before its expiration date. This may be done on the request of the trainee, on request of the training institution, or because of unsatis-

factory performance, unfitness, or inability of the trainee to carry out the purposes of the traineeship.

The award of a traineeship to an individual does not make the trainee an employee of the Public Health Service. An applicant may not be concurrently receiving financial support for training from any other Federal source, including Federal grants to states.

How To Apply. Applicants for these traineeships should apply directly to the school of their choice having a traineeship grant. A number of traineeships will also be available through grants to the schools of public health. Residents interested in securing a traineeship award from a school of public health should apply directly to the school of their choice having a traineeship grant.

Traineeship awards will also be available directly from the Public Health Service for all categories of professional health personnel. Applicants for such individual traineeships may secure application forms and additional information from any of the Regional Medical Directors of the Public Health Service (see list below) or from the Chief, Division of General Health Services, Bureau of State Services, Public Health Service, U. S. Department of Health, Education, and Welfare, Washington 25, D. C.

Applications for traineeships to begin in the fall semester should be submitted by April 1. However,

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traineeships will be awarded as vacancies occur. Applications providing for training to start at other than the beginning of the normal academic year should be submitted at least three months prior to the time the applicant wishes to begin training.

Regional Directors:

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ANONYMOUS

Mediquiz



Questions are from a civil service examination given to candidates for physician appointments in municipal government.

Answers on page 171.

1. The cause of edema in the nephrotic stage of chronic diffuse glomerulonephritis is: (A) increased venous pressure; (B) decreased osmotic pressure of the blood; (C) increased capillary permeability; (D) inability of the kidney to excrete sodium.
2. The elevation of mean blood pressure in patients with essential hypertension is due chiefly to: (A) increased cardiac output; (B) increased blood volume; (C) increased peripheral resistance; (D) decreased elasticity of the arteries.
3. In a patient with an abnormally elevated blood urea, the best evidence that intrinsic renal disease is the basis for the elevation is: (A) presence of abnormal amounts of protein in the urine; (B) marked reduction of urine volume; (C) generalized edema; (D) fixation of the specific gravity 1.010 of the urine.
4. The occurrence of bilateral pilledema indicates progress from: (A) benign to malignant nephrosclerosis; (B) acute to chronic diffuse glomerulonephritis; (C) normal sized to contracted kidneys; (D) acute to chronic pyelonephritis.
5. In the normal kidney, urea undergoes: (A) tubular reabsorption; (B) tubular secretion; glomerular filtration; (D) glomerular filtration and tubular reabsorption.
6. Patients manifest the nephrotic syndrome and hypertension with: (A) intercapillary glomerular sclerosis; (B) atrophic pyelonephritis; (C) acute diffuse glomerulonephritis; (D) polycystic renal disease.
7. Subjectively, uncomplicated syphilitic aortitis is characterized by: (A) retrosternal pain of anginal type; (B) paroxysmal dyspnea; (C) no symptoms; (D) aortalgia.



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Sodium Pantothenate	10 mg.
Ascorbic Acid (C)	300 mg.
Vitamin B ₁₂	15 mcgm.
Folic Acid	3 mg.



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8. Of the following, the poorest average prognosis is observed in cardiovascular syphilis with: (A) coronary ostial stenosis; (B) uncomplicated aortitis; (C) aortic insufficiency; (D) aneurysm of aorta

9. In congestive heart failure the circulating plasma volume is: (A) decreased; (B) variable, usually decreased; (C) unchanged; (D) increased.

10. Radiographically, left auricular enlargement is seen best in the: (A) right anterior oblique view; (B) left anterior oblique view; (C) postero-anterior view; (D) left lateral view.

11. Radiographically, right ventricular hypertrophy is seen best in the: (A) left anterior oblique view; (B) right anterior oblique view; (C) left lateral view; (D) postero-anterior view.

12. In rheumatic heart disease with mitral stenosis, a high pitched valvular sound in early diastole, heard best in the pulmonic area, is most likely: (A) the opening snap of mitral stenosis; (B) a loud third heart sound; (C) a split second sound; (D) a protodiastolic gallop rhythm.

13. Because digitalis natrium (digitoxin) is a glucoside which comes in crystalline form which can be measured precisely, the daily

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maintenance dose: (A) is 0.002 mg; (B) is 0.2 mg; (C) is 2.0 mg; (D) Must nevertheless be determined by trial and error.

14. Arterial vascular insufficiency of an extremity may manifest itself by: (A) red, warm skin; (B) pale, warm skin; (C) rubor on elevation, pallor on dependency; (D) red, cool skin.

15. By "vasomotor gradient" is meant the difference in vasomotor activity and hence in temperature between the: (A) head and feet; (B) thorax and abdomen; (C) proximal and distal parts of an extremity; (D) hands and feet.

16. The term "claudication" means: (A) arthralgia; (B) limping; (C) pain; (D) cramp.

17. The characteristic electrocardiographic pattern which results from myocardial infarction secondary to closure of the ramus descendens posterior of the right coronary artery is similar to the electrocardiographic pattern seen in: (A) Ayerza's disease; (B) pulmonary embolization; (C) advanced mitral stenosis; (D) Chagas' disease.

18. When subacute bacterial endocarditis due to streptococcus viridens is encountered during the so-called "bacteria-free" stage, an associated impairment of renal function with azotemia is most frequently caused

by: (A) focal embolic glomerulonephritis; (B) subacute or chronic diffuse glomerulonephritis; (C) renal infarction; (D) bilateral pyelonephritis.

19. The most constant of the clinical features of chronic cor pulmonale is: (A) edema; (B) clubbed fingers; (C) enlarged liver; (D) cyanosis.

20. For four or five days prior to having a glucose-tolerance test, a patient omits all foods containing sugar from his diets and eats little of any foods containing carbohydrates. Such a procedure will: (A) in no way alter the result of his glucose-tolerance test; (B) increase his glucose tolerance; (C) decrease his glucose tolerance; (D) still yield a high fasting blood sugar, but give a normal blood sugar at the end of two hours following the taking of glucose involved in the test.

21. In the majority of cases of hypothyroidism: (A) the blood iodine concentration is normal; (B) the blood iodine concentration is decreased; (C) the blood iodine concentration is increased; (D) there is increased excretion of iodine in urine, feces, etc., but the blood concentration of iodine is normal because thyroid iodine is increased.

22. In hypothyroidism, when desiccated thyroid medication is resorted to: (A) the lower the basal metabolism, the larger the initial dose of

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RHEUMATIC HEART DISEASE • MITRAL STENOSIS AND INSUFFICIENCY

ROENTGEN CONFIGURATION—Postero-anterior examination—moderate heart enlargement—right ventricular enlargement—prominence of pulmonary artery segment.
Taken from White Laboratories' Technical Exhibit, American Medical Association 105th Annual Meeting, Chicago, June 11-15, 1956.

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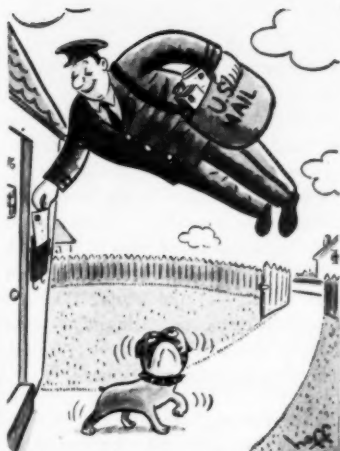
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dessicated thyroid should be; (B) the lower the basal metabolism, the smaller the initial dose of dessicated thyroid should be; (C) the dose should be related to the weight of the patient; (D) the dose should be related to the amount of myxedematous swelling (edema) of the patient.

23. Of the following, the most accurate description of what occurs in well defined hyperpituitarism is: (A) fasting hyperglycemia; and diminished glucose tolerance; (B) fasting hyperglycemia but increased glucose tolerance; (C) normal blood sugar and sugar tolerance; (D) hypoglycemia.

24. Of the following, the most accurate description of findings in hypoparathyroidism is: (A) low blood serum calcium; spontaneous fractures; (B) low blood serum calcium; high blood serum phosphorus; tetany; (C) high blood serum calcium; tetany; (D) high blood serum calcium; low blood serum phosphorus.

25. A freshly voided urine specimen which contains glucose is being tested for the presence or absence of glucose (copper-reducing substance). To 2½ cc of Benedict's Qualitative Solution, in good condition and correctly prepared, five drops of urine have been added. The mixture has been boiled over a Bunsen burner, but the reagent does



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not change in color nor in clarity when the test tube is removed. The patient reports the specimen as containing "no sugar." The erroneous report of "no sugar" is due to the fact that: (A) too much Benedict's Solution was used in proportion to the amount of urine used in the test; (B) too little Benedict's Solution was used; (C) the contents of the test tube were not allowed to cool before the reading of the results; (D) too little urine was used.

26. A putrid lung abscess is usually due to: (A) infected embolus; (B) infarct which becomes secondarily infected; (C) aspiration of infectious material from the mouth; (D) secondary infection of pneumococcal pneumonia.

27. A man aged 22, healthy six months ago, is now discovered to have a soft cottony shadow 2 centimeters in diameter in the upper part of one lung. He has been gaining weight. Physical examination reveals no abnormalities. The patient feels entirely well. The presumptive diagnosis is tuberculosis. Proper management is: (A) collapse of the lung by artificial pneumothorax; and permit patient to continue working; (B) hospitalization; (C) no treatment, because the disease is inactive; (D) allowing the man to work, but with re-examination once a month.

28. A forty-five-year-old patient coughs up blood and then develops

dyspnea, persistent wheezing in one lung, and fever, over a period of six months. He most probably has: (A) tuberculosis; (B) bronchiectasis; (C) primary cancer of the lung; (D) metastatic cancer of the lung.

29. Chronic cor pulmonale may be related to: (A) pneumoconiosis; (B) diaphragmatic adhesions; (C) chronic tuberculosis at the apex; (D) systemic arteriosclerosis.

30. Acute spontaneous pneumothorax without pleural effusion in a young man who does not become dyspneic is best treated by: (A) withdrawal of gas from the chest; (B) artificial pneumothorax; (C) bed rest; (D) oxygen inhalation.

31. A man has been in a traffic accident. He is in shock and needs a blood transfusion. His blood type is Rh positive. The one of the following statements which applies before transfusion is given is that: (A) ordinary typing would be sufficient; (B) the history of previous transfusion is necessary; (C) he needs a donor with Rh positive blood; (D) he needs a donor with Rh negative blood.

32. The one of the following rays which radioactive phosphorus emits is: (A) Alpha; (B) Beta; (C) Gamma; (D) others.

33. The best single index to the severity of H. influenzae meningitis is: (A) spinal fluid cell count; (B)

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spinal fluid sugar; (C) spinal fluid protein; (D) stained smear of spinal fluid.

34. Of the following, the cause of San Joaquin Valley fever is: (A) rickettsia; (B) filtrable virus; (C) fungus; (D) gram-positive cocci.

Correction

In the January issue, Medi-quiz question number three was improperly worded, making the published answer incorrect. The corrected question and answer is as follows:

3. The one of the following conditions in which splenectomy would be *inadvisable* is (A) acute lymphatic leukemia; (B) sarcoma of the spleen; (C) congenital hemolytic icterus; (D) essential thrombocytopenic purpura. Answer: (A). The editors sincerely regret this error.

MEDIQUIZ ANSWERS

(from page 162)

1(B), 2(C), 3(D), 4(A), 5(D), 6(A), 7(C), 8(A), 9(D), 10(A), 11(B), 12(C), 13(D), 14(D), 15(C), 16(B), 17(B), 18(B), 19(D), 20(C), 21(C), 22(B), 23(A), 24(B), 25(C), 26(C), 27(B), 28(C), 29(A), 30(C), 31(A), 32(B), 33(B), 34(C).



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OFFICES FOR RENT

EYE AND ENT—Unopposed practice in fashionable Brentwood section Los Angeles; offices available in new medical building ready May 1957; similar opportunities OB-GYN and surgeon. George O. Schecter Associates, 1834 Pandora Avenue, Los Angeles, Cal.

ENT—Establish your practice in the fastest growing area in Southern California; 1800 persons per physician; design your own office; 9 suites already completed; 11 to be ready about August 1st. West Anaheim Medical Center, 9602 Orange, Anaheim, California.

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OPPORTUNITIES IN SOUTHERN California—Carefully researched areas for unopposed private practice; suites in new medical buildings available for lease. George O. Schecter Associates, 1834 Pandora Ave., Los Angeles, Calif.

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VIEWBOX DIAGNOSIS

(from page 15)

PNEUMONIA

Note large parahilar area of exudative inflammation. There are no dynamic disturbances. No evidence of antecedent disease such as fibrosis or calcification. The short acute history was confirmatory.

RESIDENT RELAXER

(puzzle on page 17)

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